

## A CONCISE REVISION OF THE FLACOURTIACEAE OF NEW CALEDONIA AND THE LOYALTY ISLANDS

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### SUMMARY

A taxonomic revision of the *Flacourtiaceae* of New Caledonia incl. the Loyalty Islands, based mainly on the recently very enriched materials deposited in the Paris Herbarium. This resulted in a total of 53 species, belonging to 4 genera: *Casearia*, *Homalium*, *Xylosma*, and the endemic genus *Lasioclumys*; 21 species and 1 variety were described as new and 5 new combinations were made.

### RÉSUMÉ

Révision taxonomique des *Flacourtiacées* de la Nouvelle-Calédonie et des Îles Loyauté, basée avant tout sur les matériaux récemment très enrichis déposés au Muséum National d'Histoire Naturelle à Paris. En total 53 espèces sont traitées, attribuées à 4 genres: *Casearia*, *Homalium*, *Xylosma*, et *Lasioclumys*, le dernier endémique; 21 espèces nouvelles et une variété nouvelle sont décrites, et 5 combinaisons nouvelles sont faites.

### INTRODUCTION

During the last 5 years I have been busy with the revision of a number of selected Flacourtiaceous genera of the Old World, mainly of Africa. The great number of new collections made recently in New Caledonia were the motive to revise the family for that island too. These collections are due in the first place to the activities of Dr. H. S. MacKee of the 'Centre Nationale des Recherches Scientifiques à Nouméa' (almost 30,000 numbers by now), who has not only visited many of the classical localities of Vieillard, Deplanche, and Balansa, but also collected in many places not visited by botanical collectors before. Other rich collections resulted from the travels made by Guillaumin and Baumann in the early fifties, though these were limited mainly to places already known by former collectors. During the last decade the Botanical Section of the O.R.S.T.O.M. center at Nouméa (Blanchon, Jaffré, Schmid, Veillon) also collected considerable material, the duplicates of which were kindly sent to the author to be incorporated into this revision. Apart from these materials, all specimens found in the herbaria of Geneva, Kew, London (BM), Leiden, and Zürich were revised, but not those in Herb. Vieillard at Caen. This revision is published here in a concise form (bibliography, key to the genera and species, enumeration of collections examined) as the family is in preparation at the Muséum National d'Histoire Naturelle in Paris for the '*Flore de la Nouvelle-Calédonie*', a work which will give additional information as to descriptions, distribution, ecology, collections with the pertaining localities, and drawings of the species concerned.

This revision reflects the high amount of endemism on New Caledonia in the *Flacourtiaceae*, a fact also known from the whole Pacific in this family; many of these species, however, are but slightly different from each other. On New Caledonia apparently minor variations of a number of species exist which might be due to local (ecological) differences

forms which can hardly be separated from each other and are better left within a 'central' species without nomenclatural status. Certainly, the real richness of the flora of New Caledonia is still far from being well-known, and both new collections and observations in the field will play an important role in clearing up these remaining uncertainties.

#### KEY TO THE GENERA

1. Flowers in short racemes, fascicles, or glomerules, always axillary. Ovary superior.
  2. Flowers unisexual. Fruit bacciform. Leaves without pellucid points or striations.
    3. Tepals in 2 whorls (the inner one very similar to the outer one, hardly petaloid) (*Scolopieae*) . . . . . **1. Lasiochlamys**
    3. Tepals in 1 whorl (*Flacourtiaceae*) . . . . . **2. Xylosma**
  2. Flowers bisexual. Fruit a capsule with coriaceous or succulent pericarp. Leaves with pellucid points and/or striations (*Caseariaeae*) . . . . . **3. Casearia**
1. Flowers (bisexual) in elongate, simple or compound, sometimes spike-like, axillary or subterminal racemes. Ovary semi-inferior. Fruit a small, thin-walled, and tardily dehiscent capsule (*Homalieae*) . . . . . **4. Homalium**

#### 1. LASIOCHLAMYS

*Lasiochlamys* Pax & Hoffm. in Engl., Pflanzenreich IV.147.XV (1922) 17; in E. & P., Nat. Pfl. Fam. ed. 2, 19c (1931) 46.

Arbores vel frutices inermes, glabri. *Folia* alterna, simplicia, integra vel crenata, penninervia, petiolata; stipulae glandulaeque foliorum basales — quasi petiolipares — nullae. *Flores* unisexuales, plures ad racemos breves vel fasciculos in axillis foliatis (raro defoliatis) digesti, bracteolati. Pedicelli basi vel paullo supra basin articulati. *Tepala* biseriata, exteriora (vel sepala) (3) 4 (raro 5), ovata usque suborbicularia, imbricata, libera, parva, ad faciem anteriorem pubescentia, persistentia; tepala interiora (vel petala) 3 vel 4 (raro 5), cum exterioribus alternantia, ceterum iis similia, sed haud raro minora vel tenuiora, ut videtur, interdum pro parte caduca vel haud bene evoluta. *Discus* extrastaminalis annularis, glandulis 8—25 parvis, ± liberis, crassis vel applanatis formatus. Flores ♂: *Stamina* indefinita; filamenta filiformia; antherae connectivo crasso instructae. Rudimentum ovarii nullum. Flores ♀: *Staminodia* nulla. *Ovarium* ovoideum, placentis parietalibus 2 vel 3, ovulis anatropicis paucis instructis; stylus (per)brevis vel subnullus; stigmata 2 sessilia, reniformia vel subcapitata, radiata, subbiloba vel crenulata. *Bacca* stigmatibus 2 coronata; pericarpium tenue, coriaceum; semina pauca, exarillata, albuminata; testa tenuis, laevis.

Typus: *L. reticulata* (Schlechter) Pax & Hoffm. (*Cyclostemon reticulatum* Schlechter).

A genus of the *Flacourtiaceae-Scolopieae* originally described in the *Euphorbiaceae* on Schlechter's wrong statement that the ovary was bilocular. It is apparently endemic in New Caledonia and closely allied to *Hemiscopia* Soot. (Indo-China, S. of Thailand, Malay Peninsula, Sumatra, Banka, E. Java); the latter differs from *Lasiochlamys* by glabrous tepals, by the presence of a rudimentary ovary in the ♂ flower, and by the leaves which bear 2(—4) distinct marginal basal glands.

#### KEY TO THE SPECIES

1. Leaves with very numerous fine impressed points on the upper surface (less visible on the undersurface) . . . . . **1. L. koghiensis**
1. Leaves either more laxly, irregularly, and more coarsely pitted on the upper surface, or generally not pitted at all.

- 2. Leaves peltate and tuberculate . . . . . 2. *L. peltata*
- 2. Leaves not peltate.
- 3. Leaves 7—17 cm long, never tuberculate.
- 4. Leaves coriaceous.
  - 5. Pedicels 5—7 mm long. Leaves rigid; lateral nerves 7 or 8 pairs  
3. *L. coriacea*
  - 5. Pedicels 1—2(—3) mm long.
    - 6. Leaves rigid, with 4 or 5 pairs of lateral nerves 4. *L. pseudocoriacea*
    - 6. Leaves firm, with 6 or 7 pairs of lateral nerves . . . 5. *L. rivularis*
- 4. Leaves subcoriaceous,  $\pm$  flexible.
  - 7. Leaves with lateral nerves distinctly impressed above when dry  
6. *L. trichostemona*
  - 7. Leaves with lateral nerves flat above when dry.
    - 8. Petioles 3—5 mm long, robust . . . . . 7. *L. fasciculata*
    - 8. Petioles 8—20(—25) mm long, rather slender . . . 8. *L. cordifolia*
- 3. Leaves 2—7 (rarely in part in the same specimen up to 8) cm long, tuberculate or not.
  - 9. Leaves ovate, cordate at the base, finely puberulent at midrib and lateral nerves below, not tuberculate . . . . . 9. *L. hürlimannii*
  - 9. Leaves attenuate-cuneate at the base, glabrous.
    - 10. Leaves oblong, finely and rather densely tuberculate on both faces, coarsely crenate . . . . . 10. *L. grossecrenata*
    - 10. Leaves elliptic or obovate-elliptic, elliptic-oblong, or obovate-spathulate, not tuberculate, (sub)entire.
      - 11. Leaves elliptic or rarely subobovate-elliptic, apex obtusely attenuate  
11. *L. reticulata*
      - 11. Leaves obovate-oblong, obovate, or obovate-spathulate, apex  $\pm$  broadly attenuate or mostly rounded, sometimes a little emarginate.
        - 12. Leaves subcoriaceous, flexible. . . . . 12. *L. mandjeliiana*
        - 12. Leaves coriaceous, rigid . . . . . 13. *L. planchonellaefolia*

# 1. *Lasiochlamys koghiensis* (Guillaumin) Sleumer, *comb. nov.*

*Xylosma koghiense* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 25 (1953) 415 ('*koghiensis*'), 505; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 75. — Type: *Brousmiche 511* (P).

Specimens examined: *Baumann 15706*; *Brousmiche 511*; *Hürlimann 1101, 1367, 1418, 1662*; *MacKee 9819, 9820, 15971, 17910, 18186, 24916*; *Veillon 751, 943, 1044*.

Note. The specimens from Mt. Do have narrower and larger leaves than those from Mt. Koghi and the southeastern part of the Mt. Humboldt massif.

# 2. *Lasiochlamys peltata* Sleumer, *nov. spec.*

Frutex. *Ramuli* graciles, in partibus novellis patenter puberulis 1,5, in partibus vetustioribus tenuiter corticatis c. 2 mm diam. Folia laxa, ovata, breviter obtuse acuminata, basi rotundata vel levissime cordata, 3—8 mm supra basin peltata, coriacea, glabra, supra vix, subtus bene visibiliter tuberculata, in sicco olivaceo-virentia et opaca, margine paullo revoluta leviter subserrato-crenata (crenaturis obtusis 4—10 mm distantibus vix 1 mm altis, glandulam minutam atrescentem gerentibus), 5—8,5 cm longa, 4—6,5 cm lata, costa utrinque superne paullo immersa, inferne parum prominente, nervis lateralibus inferioribus

3- vel 4-paribus e puncto ubi petiolus adnatus est, palmatim enascentes, superioribus 2- vel 3-paribus a costa abeuntibus, omnibus supra levissime immersis, subtus evanescentibus, reticulatione venarum et venularum obscura; petioli puberuli 1—2,3 cm longi, 1,5 mm diam. *Racemi* pauciflori ex axillis summis orti, in statu fructifero tantum cogniti; rhachis quadrangularis sat gracilis, puberula, vix 1 cm longa. *Pedicelli* puberuli 2—3 mm longi. *Tepala* exteriora 3 ovata, dorso puberula, intus sericea, ciliata, 2,5 mm longa et lata, interiora (2) 3 similia, paullo minora. *Disci lobi* c. 12, applanato-claviformes. *Fructus* immaturus ovoideo-subglobosus, apice in stylum perbreve attenuatus, stigmata 2 gerens, glaber, in sicco nigrescens, c. 8 mm longus et 6 mm latus, semina pauca gerens.

NEW CALEDONIA. Touaourou (dernier ruisseau avant Kuébini), en forêt basse ripicole, berges péridotiques rocheuses, 100 m, fr. 8—3—1973, *M. Schmid 4449* (P, type; L, Herb. ORSTOM-Nouméa).

### 3. *Lasiochlamys coriacea* Sleumer, *nov. spec.*

Frutex gracilis vel arbuscula 3—6 m alta, trunco cortice laevi brunneo oblecto. *Rami* c. 1 cm crassi florigeri, cortice nigrescenti quadrangulariter fissio oblecti; ramuli novelli glabri, vetustiores cito rubro-brunneo-corticati lenticellis paullo pallidioribus subdense praediti. *Folia* ovata usque elliptica, paullo inaequilateralia, apice late breviter attenuata vel subacuminata, basi late in petiolum cuneata vel rotundato-obtusa, raro levissime cordata, coriacea, rigida, glabra, initio in vivo rubescentia, demum supra saturate viridia, subtus pallidiora, in sicco rubescenti-brunnescentia, utrinque lucidula, haud tuberculata, subcrenato-undulata, (8—)9—15(—17) cm longa, (4,5—)5—11 cm lata, nervis lateralibus 7—8-paribus supra parum, subtus bene prominentibus, reticulatione venarum venularumque densa utrinque imprimis subtus distincte elevata; petioli glabri, 1—2 cm longi, 2(—3) mm crassi. *Flores* e trunco, ramis vel ramulis defoliatis orti, statu gemmarum rubri, aperti lutescentes, albi vel rosacei, ad fasciculos 3—5(—7)-floros dispositi. *Pedicelli* sat robusti, paullo supra basin articulati, glabri, sub anthesi 5—7 mm longi, sub fructu paullo accrescentes. *Tepala* crassiuscula, exteriora 4 ovata, dense albociliata, dorso glabra, intus pubescentia, c. 3 mm longa et 2 mm lata, interiora 3 vel 4 generaliter paullo angustiora et breviora, ceterum similia. *Discus* e glandulis crassis parvis 12—16 formatus. *Flores* — *Stamina* 40—50; filamenta certe inferne brevipilosa; antherae vix apiculatae. *Flores* ♀: *Ovarium* ovoideum, glabrum, 4-ovulatum, apice in stylum perbreve attenuatum, stigmata 2 reniformia gerens. *Fructus* submaturus ovoideo-subglobosus, nigrescens, c. 7 mm longus, 5 mm diam.

NEW CALEDONIA. Crête entre Haute Tchamba et Haute Amoa, Expl. forest. Létocart, forêt humide, 600 m, fl. ♂, 26—10—1965, *MacKee 13686*; Haute Diahot, Tendé, Expl. forest. Frouin, forêt humide sur micaschistes, 600 m, fl. ♂, 11—9—1969, *MacKee 20790*; Pouébo, Mont Mandjélia, forêt humide sur micaschistes, 600—700 m, defl. ♀, 4—11—1971, *H. S. MacKee 24594* (P, type; L).

### 4. *Lasiochlamys pseudocoriacea* Sleumer, *nov. spec.*

Frutex elatus 3 m altus; *ramuli* apicibus glabri, laxe lenticellis elongatis induti, deorsum cortice griseo-nigrescente oblecti. *Folia* oblongo-elliptica vel elliptica, apice sensim attenuata vel subacuminata, obtusiuscula, basi ± late in petiolum cuneata, coriacea, rigida, glabra, in sicco supra olivaceo-brunnea, subtus brunnea, in vivo interdum subtus rubentia, utrinque lucidula, haud tuberculata, margine paullo revoluta hic inde leviter crenata, vel generaliter integra, 8—13 cm longa, 3,5—6 cm lata, nervis lateralibus (4) 5-paribus supra vix, subtus bene prominentibus, reticulatione venarum venularumque supra densissima et prominula, subtus multo minus densa distinctiusque elevata; petioli glabri, ± 1 cm longi, 1,5—2 mm crassi. *Flores* ex axillis ramulorum interdum jam defoliatis orti, lutei, ad fasciculos vel glomerulos 3—5-floros dispositi. *Pedicelli* crassiusculi, basi articulati, glabri, 1—2

(—3) mm longi. *Tepala* exteriora 3 vel 4, ovata, incrassata, extus glabra, intus sericea, apice ciliolulata, 2 mm longa, interiora 3 vel 4 similia sed minora vel angustiora, tenuia, ciliata. *Disci glandulae* c. 8 applanatae, parvae. Flores ♂: *Stamina* 25—30; filamenta pubescentia. Flores ♀: *Ovarium* subglobosum, glabrum; stylus nullus; stigmata 2 sessilia, plurilobulata. *Fructus* ignotus.

NEW CALEDONIA. Haute Kouaoua, Mé Ori, plateau sommital, 900—1000 m, forêt humide sur serpentine, fl. ♂ 3—12—1969, MacKee 21224; ibid., pente Nord Est de Mé Ori, fl. ♀ 3—12—1969, MacKee 21232 (P, type; L).

### 5. *Lasiochlamys rivularis* Sleumer, *nov. spec.*

*Casearia lifuana* auct., non Däniker: Guillaumin, Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 73 (Guillaumin & Baumann 10901, cit. '10091').

Frutex; *ramuli* defoliati florigeri 4—8 mm diam., teretes, inferne laxe lenticellis subrotundis parum elevatis induti, apicibus, ut videtur, glabri, cito corticati. *Folia* oblongo-elliptica, apice brevissime subacuminata vel obtusa, basi cuneata, coriacea, firma, glabra, in sicco rubrobrunnea, utrinque nitidula, haud tuberculata, integra, margine hic inde glandula minuta instructa, 9—13 cm longa, 4—6,5 cm lata, nervis lateralibus 6—7-paribus supra planis sat obscuris, subtus prominentibus, reticulo venarum venularumque laeto subtus denso, supra maximissimo utrinque elevatulo; petioli 9—12 mm longi, 2—3 mm crassi. *Flores* ex axillis foliorum pro parte maiore jam delapsorum orti, ad glomerulos sat multifloros dispositi, ♂ tantum cogniti et nondum bene evoluti. Pedicelli crassiusculi, glabri, 1—1,5 mm tantum longi. *Tepala* 3 (vel 4) exteriora ovato-orbicularia, dorso glabra, intus pubescentia, albociliata, c. 2 mm diam., interiora 3 (vel 4) similia sed tenuiora pauloque minora. *Disci glandulae* minutae. Flores ♂: *Stamina* 20—25, nondum bene evoluta; filamenta pubescentia. Flores ♀: *Ovarium* subglobosum, glabrum; stigmata 2 sessilia, reniformia.

NEW CALEDONIA. Rivière Bleue, fin de route, 180 m, en forêt vallicole dense humide sur alluvions péridotiques, fl. ♂ 3—11—1965, J.-M. Veillon 452 (type L; Herb. ORSTOM-Nouméa); ibid., 200 m, fl. ♀ 22—2—1951, Guillaumin & Baumann 10901 (P).

### 6. *Lasiochlamys trichostemona* (Guillaumin) Sleumer, *comb. nov.*

*Xylosma trichostemon* Guillaumin, Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 8 (1959) 124 ('*trichostemona*'). — *T y p e s*: MacKee 4435 (L, P), 4704 (P, holotype; L), 5286 (L, P).

*Specimens examined*: Guillaumin & Baumann 7028; Hürlimann 3557; MacKee 4423, 4435, 4704, 5286.

### 7. *Lasiochlamys fasciculata* (Guillaumin) Sleumer, *comb. nov.*

*Xylosma fasciculatum* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 25 (1953) 414 ('*fasciculata*'). — *T y p e*: Balansa 2334 (P, holo; L).

*Specimens examined*: Balansa 2334; MacKee 19630, 26829.

### 8. *Lasiochlamys cordifolia* Sleumer, *nov. spec.*

Frutex elatus, gracilis, 3—5 m altus; *ramuli* in sicco nigrescentes, apicibus glabri, lenticellis elongato-ellipticis pallidis subdense instructi. *Folia* ovata usque elliptico-ovata, apice breviter obtuse attenuata vel subacuminata, basi saepius inaequilateralia, rotundata vel plerumque (sub)cordata, subcoriacea, glabra, in sicco nigrescentia, supra lucidula, haud tuberculata, 7—11 cm longa, (3—)3,5—6,5 cm lata, margine antice subcrenata, generaliter paullo undulata vel integra, haud revoluta, nervis lateralibus 5(—6)-paribus utrinque

sat planis, reticulatione densa utrinque elevatula; petioli graciles, 8—20(—25) mm longi, c. 1 mm crassi. Flores ad fasciculos vel glomerulos vel racemos abbreviatis axillares ramulis pro parte jam defoliatis usque ad 1,5 cm diam. insidentes et 3—8-floros dispositi. Pedicelli sat graciles, parcepuberuli, 3—5 mm longi, paullo supra basin articulati. Tepala viridescenti-lutea, exteriora 4 crassiuscula, ovata vel subrotundata, dorso glabra, intus albosericea, ciliata, c. 1,8 mm longa, interiora 4 c. duplo minora, tenuiora, ciliata. Discus e glandulis c. 12 minutis applanatis formatus. Flores ♂ incogniti. Flores ♀: Ovarium ovoideo-subglobosum, glabrum; stigmata 2 sessilia, plurilobulata. Fructus incognitus.

NEW CALEDONIA. Ponérihouen, pente Est du Mt. Aoupinié, en forêt humide sur grauackes, 700 m, fl. 7—11—1972, H. S. MacKee 25783 (P, type; L); ibid., crête entre Haute Mou et Haute Monéo, en forêt humide sur grauackes, 600—700 m, fl. ♀ 21—6—1973, MacKee 26846; Pondimié, Povila, en forêt humide sur crête schisteuse, 400 m, fl. ♀ 14—5—1973, MacKee 26689.

### 9. *Lasiochlamys hürlimannii* (Guillaumin) Sleumer, *comb. nov.*

*Xylosma hürlimannii* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 25 (1953) 505; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 75. — Type: Hürlimann 1120 (P, holo; Z).  
Specimen examined: Hürlimann 1120.

### 10. *Lasiochlamys grossecrenata* Sleumer, *nov. spec.*

Frutex gracilis elatus, 4 m altus, trunco cortice laevi griseo; ramuli tenues, apicibus minutissime patenter puberuli, deorsum cito corticati lenticellisque ellipticis pallidis dense obsiti. Folia oblonga, apice ± late attenuata, raro subacuminata, obtusa, interdum subrotundata, basi late cuneata, subcoriacea, flexilia, glabra, in vivo supra saturate, subtus pallide viridia, in sicco brunnescenti-nigrescentia, utrinque in sicco sat dense minute tuberculata, 3,5—5 cm longa, 1,5—2 cm lata, utroque latere crenaturis sat grossis 5—7 (8) prorsus versis c. 1 mm profundis instructa, nervis lateralibus 4- vel 5-paribus utrinque parum elevatis, reticulatione sat densa supra ± obscura, subtus prominula; petioli graciles 5—7 mm longi. Racemi axillares abbreviati 3—6-flori, ♀ tantum cogniti; rhachis 2—5 mm longa, puberula. Pedicelli sat robusti, basi articulati, puberuli, 1—2 mm longi. Tepala exteriora 3 vel 4, ovato-orbiculata, crassiuscula, dorso puberula vel glabra, intus sericea, ciliata, 1,5 mm longa, interiora 3 (raro 2, rarissime 1, cetera caduca?) similia vel plerumque minora, semper tenuiora, sericea et ciliata. Disci lobi 12—15, parvi, subclavato-applanati. Fructus immaturus subglobosus, apiculatus, glaber; stigmata 2 sessilia; semina 2 vel 3.

NEW CALEDONIA. Pouembout, 30 m, en forêt basse dense sur argile noire sans apport serpentineux, ♀ defl. 16—2—1972, H. S. MacKee 25009 (P, type; L).

### 11. *Lasiochlamys reticulata* (Schlechter) Pax & Hoffmann

*Cyclostemon reticulatum* Schlechter, Bot. Jahrb. 39 (13—2—1906) 148; Guillaumin, Fl. Nouv.-Caléd. (1948) 181. — *L. reticulata* Pax & Hoffmann in Engl., Pflanzenreich IV.147.XV (1922) 17; in E. & P., Nat. Pfl. Fam. ed. 2. 19c (1931) 46. — Type: Schlechter 15628 (B, holo ♀; G, HBG, K, L, P, Z).  
*Scolopia austro-caledonica* Schlechter, Bot. Jahrb. 39 (8—6—1906) 197. — *Xylosma austro-caledonicum* Sleumer, Notizbl. Berl.-Dahl. 14 (1938) 292; Guillaumin, Fl. Nouv.-Caléd. (1948) 224. — Type: Schlechter 15701 (B, holo ♀; BM, G, HBG, K, L, P, S, WRS, Z).  
Specimens examined: MacKee 13847, 25758, 26805; Schlechter 15628, 15701.

### 12. *Lasiochlamys mandjeliana* Sleumer, *nov. spec.*

Frutex c. 3 m altus; ramuli apicibus glabri, citissime cortice tenui rubro-brunneo obtecti lenticellisque densis pustulati. Folia oblongo-obovata, apice rotundata raro paullo emarginata, basin versus in petiolum cuneata, subcoriacea, flexilia, glabra, haud tuberculata, in

vivo supra saturate viridia et lucidula, subtus pallidiora, margine vix revoluta integra hic inde glandula obscura instructa, 3,5—6 cm longa, 1,5—2 cm lata, nervis lateralibus c. 4-paribus utrinque imprimis subtus prominulis, rete venarum venularumque denso utrinque elevatulo; petioli 4—6 mm longi, c. 1 mm crassi. Flores ♀ tantum et statu deflorationis cogniti 4—6 in racemis axillaribus secus rhachem 2—5 mm longam instructi, glabri. Pedicelli crassiusculi, inferne parce pilosuli, paullo supra basin articulati, 2—4 mm longi. Tepala exteriora 4 obovato-oblonga, ciliolata, dorso subglabra, intus pubescentia, c. 2,5 mm longa, interiora 4 similia sed paullo angustiora et breviora. Discus e glandulis c. 12 sat parvis sat planis formatus. Ovarium ovoideum, glabrum, apice in stylum perbreve attenuatum, brevissime bifidum, in summo quoque parte libero stigma parvum bilobatum gerens. Fructus subglobosus, in vivo viridis, c. 5 mm diam., stigmatibus 2 subsessilibus coronatus.

NEW CALEDONIA. Pouébo, Mt. Mandjélia, forêt humide sur micaschistes, 600—700 m, fl. ♀ 4—11—1971, H. S. MacKee 24581 (P, type; L); ibid., fr. 29—11—1972, MacKee 25924; Haute Diahot, forêt de Tende, Expl. forest. Frouin, forêt humide sur micaschistes, 500—600 m, fr. imm. 30—9—1968, MacKee 19656.

### 13. *Lasiochlamys planchonellaefolia* (Guillaumin) Sleumer, *comb. nov.*

*Xylosma planchonellaefolium* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 25 (1953) 415 ('*planchonellaefolia*'); Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 76. — Types: *Le Rat* 180 (P, holotype; L), *Le Rat* s.n. (P); *Franc* 559 & 559a (BM, P), *Franc* 689 (P).

Specimens examined: Baumann 8182; Blanchon 1060; *Franc* 559, 559a, 689; Guillaumin & Baumann 10993, 13263; Hürlimann 1124, 3342; *Le Rat* s.n., 180; MacKee 17831, 17887, 21076, 21097, 22863, 22990, 24904; Veillon 654, 2209.

## 2. XYLOSMA

*Xylosma* G. Forster, Prod. Fl. Ins. Austr. (1786) 72.

A genus with more than 100 species in (sub)tropical Asia, Malesia, the Pacific, and America. The species occurring in New Caledonia (incl. I. of Pines and Loyalty Is.) are endemic except *X. orbiculatum*, found on calcareous littoral rocks, which is known also from Fiji and Tonga.

The distinction of the New Caledonian species is mainly based on vegetative characters, which, with the dry materials at hand, seem to be surprisingly constant even to details such as nerves and veins raised or impressed on the upper surface of the leaves, or the presence or absence of tubercles on both faces of the lamina, the type and density of the reticulation, etc. As to the shape and size of the leaves there might exist slight differences in ♂ and ♀ specimens (such as is known from certain South American species of the genus), but extensive field observations to test this have not yet been made in New Caledonia. The differences as to number, shape, and size of the tepals and disk lobes in ♂ and ♀ flowers within the various species are rather vague or difficult to observe in dry materials; glabrousness or pilosity of the filaments and the ovary seem to be constant. The key is mainly based on vegetative characters for practical purposes and hence facilitates the naming of sterile materials.

## KEY TO THE SPECIES

1. Leaves with 2 conspicuous marginal and basal glands, one on each side and close to the petiole; upper marginal glands rather obscure in general. . . 1. *X. orbiculatum*
1. Leaves without a pair of such basal glands; upper marginal glands relatively small.

2. Leaves at most showing a vague, maybe slightly raised reticulation of veins and veinlets.
3. Leaves practically entire; marginal glands  $\pm$  obscure.
  4. Leaves oblong-elliptic, obtusely attenuate at the base, tuberculate on the under-surface, (2.5—)3—6(—7) by 2—3.5 cm . . . . . 2. *X. pininsulare*
  4. Leaves ovate-oblong or oblong, obtuse or subcordate at the base, not tuberculate, 1.5—2.5 by 0.5—1.5 cm . . . . . 7. *X. nervosum*
3. Leaves  $\pm$  coarsely crenate.
  5. Leaves 1—2.5 (rarely —4.5) by 0.8—1.5 (rarely —2.8) cm 3. *X. pancheri*
  5. Leaves much larger.
    6. Leaves  $\pm$  deeply cordate at the base . . . . . 4. *X. dothioense*
    6. Leaves cuneate to rounded at the base . . . . . 5. *X. vincentii*
2. Leaves showing a marked reticulation which generally is raised on both faces, sometimes only on one face.
  7. Leaves at least below minutely pubescent or puberulous, glabrescent with age.
    8. Leaves distinctly serrate by 1—2 mm long, obtuse, glandular teeth, 6—12 by 3—6 cm . . . . . 6. *X. capillipes*
    8. Leaves crenate to crenulate (glands of the crenulations small or rather obscure) or entire, up to 6.5 by 4.5 cm.
      9. Leaves (sub)entire, not tuberculate; petiole 0.5—2.5 mm. Filaments and ovary pubescent. . . . . 7. *X. nervosum*
      9. Leaves  $\pm$  distinctly serrate-crenate or -crenulate, tuberculate on both faces; petiole (3—)4—7 mm. Filaments and ovary glabrous 8. *X. serpentinum*
  7. Leaves practically glabrous (very short hairs may be present on the midrib and lower parts of the lateral nerves of the undersurface of young leaves in 12. *X. bernardianum*, and possibly 16. *X. molestum*).
  10. Leaves relatively large (at least part of the leaves longer than 8 cm).
    11. Leaves (linear-)lanceolate, 8—15 by (2—)2.5—5 cm 9. *X. lancifolium*
    11. Leaves elliptic or oblong-ovate.
      12. Leaves not tuberculate, 25—30 by 11—14 cm 10. *X. gigantifolium*
      12. Leaves tuberculate on both faces, 8—14(—18) by 4—9(—13) cm 5. *X. vincentii*
  10. Leaves smaller in general (very rarely some leaves longer than 8 cm).
    13. Leaves at least partly obovate or obovate-elliptic.
      14. Leaves not tuberculate . . . . . 11. *X. inaequinerivium*
      14. Leaves tuberculate on both faces in the dry state.
        15. Leaves with the lateral nerves  $\pm$  raised on the upper surface 12. *X. bernardianum*
        15. Leaves with the lateral nerves distinctly impressed on the upper surface.
          16. Leaves 2—4 by 1—2 cm . . . . . 16. *X. molestum*
          16. Leaves 4—6 by (2.5—)3—4.5 cm . . . 13. *X. bouliindae*
    13. Leaves oblong, elliptic, or ovate, sometimes suborbicular.
      17. Leaves  $\pm$  rounded at the apex, tuberculate or not.
        18. Leaves tuberculate, 1.5—2(—3) by 1—1.8 cm; reticulation very dense . . . . . 14. *X. kaalaense*
        18. Leaves much larger in general; reticulation rather dense to obscure.
          19. Leaves not tuberculate; petiole 0.5—2.5 mm. 7. *X. nervosum*



19. Leaves tuberculate on both faces; petiole (3—)4—7 mm.  
**8. X. serpentinum**
17. Leaves attenuate-subacuminate at the apex, tuberculate.  
 20. Leaves 6—10 by 3—6 cm . . . . . **15. X. confusum**
20. Leaves smaller.  
 21. Leaves with the lateral nerves impressed on the upper surface in the dry state . . . . . **16. X. molestum**
21. Leaves with the lateral nerves  $\pm$  distinctly raised on the upper surface in the dry state.  
 22. Leaves subcaudate-acuminate . **17. X. tuberculatum**
22. Leaves obtuse to rounded at the apex **18. X. lifuanum**

### 1. *Xylosma orbiculatum* (J. R. & G. Forster) G. Forster

*Myroxylon orbiculatum* J. R. & G. Forster, Char. Gen. (1776) 126. — *X. orbiculatum* G. Forster, Prod. Fl. Ins. Austr. (1786) 72. — T y p e: Niue, Forster (BM, holo).  
*X. litorale* Däniker, Vierteljahrsschr. Nat. Ges. Zürich 78, Beibl. 19 (1933) 278 ('*litoralis*'); Guillaumin, Fl. Nouv.-Caléd. (1948) 223. — T y p e: Ouvéa, Däniker 2204 (Z, holo).  
*X. bryanii* A. C. Smith, Bull. Torr. Bot. Cl. 70 (1943) 545. — T y p e: Fiji, Bryan 392 (BISH, holo).

Distribution. New Caledonia (incl. Île des Pins, Loyalty Is.), Fiji (Ongea, Taviuni), and Tonga (Lifuka, Niue, Tongatapu, Eua, Vavau).

Specimens examined: Balansa 2069; Denizot s.n. a. 1961; Däniker 2204, 2378, 2656; MacKee 18981, 22488; Schmid 1023.

### 2. *Xylosma pininsulare* Guillaumin

*X. pininsulare* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 25 (1953) 506 ('*pininsularis*'); Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 76, p.p. — T y p e s: Île des Pins, Baumann 13778 (P, holotype; Z), 13782 (P, Z).  
 Specimens examined: Baumann 13706, 13778, 13782; MacKee 23474.

### 3. *Xylosma pancheri* Guillaumin

*X. pancheri* Guillaumin, Bull. Soc. Bot. Fr. 66 (1920) 312; Däniker, Vierteljahrsschr. Nat. Ges. Zürich 78, Beibl. 19 (1933) 279; Sleumer, Notizbl. Berl.-Dahl. 14 (1938) 291; Guillaumin, Fl. Nouv.-Caléd. (1948) 223; Bull. Mus. Nat. Hist. Nat. Paris II, 25 (1953) 506; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 76. — T y p e s: Pancher s.n. (P, holotype; BM, G, Z); Balansa 441 (G, P, Z), 2621 (cit. '3621': P), 3359 (K, P); Deplanche 250 (P); Vieillard 2295 (BM, G, P).  
 [*X. caledonicum* Gilg in E. & P., Nat. Pfl. Fam. ed. 2, 21 (1925) 434, nom. nud. (based on Deplanche 250, B,  $\dagger$ ).]

Specimens examined: Balansa 441, 2621, 3359; Baudouin 687; Däniker 3006; Deplanche 250; Guillaumin & Baumann 12118, 12136, 12211, 12219, 12222, 12234; Hürlimann 1169; Jaffré 50; MacKee 13153, 13154, 16606, 22036, 22452, 23181, 23643, 23666, 23669; Pancher s.n.; Vieillard 2295; Virot 839, 1497, 1520.

### 4. *Xylosma dothioense* Guillaumin

*X. dothioense* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 25 (1953) 414 ('*dothioensis*'). — T y p e: Balansa 3630 (P, holo).  
 Specimens examined: Balansa 3630; MacKee 12533, 13304, 13677, 17607, 22520; Veillon 1420.

### 5. *Xylosma vincentii* Guillaumin

*X. vincentii* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 25 (1953) 415. — T y p e: Balansa 2762 (P, holo).  
 Specimens examined: Balansa 2762; Bernardi 9494, 10112, 10113; MacKee 3841, 12243, 15173, 16995, 16996, 17723, 25543, 26676.

Note. *X. vincentii* is distinct from *X. suaveolens* (J. R. & G. Forster) G. Forster (type from Tahiti) by the presence of tubercles on both faces of the lamina. *X. confusum* Guillaumin, which equally has tuberculate leaves, is distinct from *X. vincentii* by its almost filiform and elongate pedicels.

## 6. *Xylosma capillipes* Guillaumin

*X. capillipes* Guillaumin, Notul. Syst. 5 (1935) 14; Sleumer, Notizbl. Berl.-Dahl. 14 (1938) 291; Guillaumin, Fl. Nouv.-Caléd. (1948) 223. — Type: *Franc 2062* (P, holo; K, Z).  
Specimens examined: *Franc 2062*.

Note. A species not yet recollected; the holotype is very poor as to flowers.

## 7. *Xylosma nervosum* Guillaumin

*X. nervosum* Guillaumin, Bull. Soc. Bot. Fr. 66 (1920) 311 ('*nervosa*'); Däniker, Vierteljahrsschr. Nat. Ges. Zürich 78, Beibl. 19 (1933) 279; Sleumer, Notizbl. Berl.-Dahl. 14 (1938) 291; Guillaumin, Fl. Nouv.-Caléd. (1948) 223; Bull. Mus. Nat. Hist. Nat. Paris II, 25 (1953) 506; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 8 (1959) 123; ditto, sér. Bot. 15 (1964) 76. — Types: *Balansa 3050* (P), 3534 (P, holotype; BM, K, Z); *Deplanche 357* (L, P).

Specimens examined: *Balansa 3050, 3534; Baumann 8190; Däniker 1443, 3008; Deplanche 357; Hürlimann 1628, 1680; MacKee 3462, 3464, 4086, 4911, 13660, 14211, 14212, 15885, 16472, 16508, 16695, 20176, 23041* (a form with rather obscure nerves and veins), 23911, 23915, 24826, 26384, 27555; *Vieillard 2241*.

Note. Rather variable as to the size and pubescence of the leaves and the distinctness of the reticulation; branchlets sometimes microphyllous on the same specimen.

## 8. *Xylosma serpentinum* Sleumer, *nov. spec.*

*X. sp.* Däniker, Vierteljahrsschr. Nat. Ges. Zürich 78, Beibl. 19 (1933) 279 (*Däniker 3007*, Z).

Frutex gracilis, erectus vel ramulis elongatis sarmentosus, 1—2 m altus; *ramuli* novelli patenter puberuli, citissime rubescenti-corticati lenticellisque ellipticis pustulati, vetustiores cortice griseo quadrangulariter fissis obtecti. *Folia* elliptica usque obovata, forma et magnitudine in eodem specimine variabilia, interdum ovata vel oblongo-elliptica, apice (sub) rotundata, basi late in petiolum cuneata, firme coriacea, initio subtus in inferiore laminae parte parcepuberula, vel ab initio omnino glabra, supra in vivo saturate viridia et lucidula, subtus pallide vel lutescenti-viridia, in sicco saepe olivaceo-lutescentia subtusque opaca, utrinque ± distincte tuberculata, margine paullo revoluta ± distincte serrato-crenulata vel -crenata, 3—6,5 cm longa, 2—3,5(—4,5) cm lata, nervis lateralibus 4—6-paribus supra planis vel paullo immersis, subtus prominulis, rete venarum venularumque denso imprimis subtus prominulo; petioli initio puberuli, rubescentes, (3—)4—7 mm longi, c. 1 mm crassi. *Racemi* axillares abbreviati floribus 3—5 secus rhachem puberulam usque ad 6 mm longam dispositis, vel ad fasciculos 2- vel 3-flosos reducti. Pedicelli prope basin articulati, glabri, 1—2 mm longi. *Tepala* 4, ovata, viridescencia vel lutescentia, dorso glabra, ciliata, intus pubescentia, 1—1,5 mm longa. *Discus* e glandulis c. 8 formatus. Flores ♂: *Stamina* 30—40; filamenta glabra; antherae exappendiculatae. Flores ♀: *Ovarium* ovoideum, glabrum; stylus subnullus; stigmata 2 reniformia divaricata. *Fructus* ovoideus, glaber, maturitate nigrescens, c. 6 mm longus, 4—5 mm diam., semina c. 4 continens.

NEW CALEDONIA. Dôme de Tiébaghi, dans le maquis sur pentes rocheuses serpentineuses, 200 m, fl. ♀, 9—10—1970, *MacKee 22749* (P, type; L); *ibid.*, 100—300 m, *Däniker 3007*, *MacKee 16175, 21654*; Montagne de Poum, 300—400 m, *MacKee 14977, 20768*; Pente Ouest du Mont Ouazangou, 200—500 m, *MacKee 17517*; Néhoué, Pic Ougne, 250—360 m, *MacKee 23822, 23824*; Haute Népoui, Oua Péoué, contrefort Sud du Kopéto, 600 m, *MacKee 20407*; Koumac, Hauteurs du Chagrin, 450 m, *MacKee 26084*.

**9. *Xylosma lancifolium* Sleumer, *nov. spec.***

Frutex 2—2,5 m altus, vel arbor ramosa usque ad 5 m alta; *ramuli* novelli in sicco atrobrunnei, striati, glabri, laxe lenticellati, vetustiores griseo-corticati. *Folia* (lineari-) lanceolata, interdum pro parte in eodem ramulo elliptica, apice obtuse (sub)acuminata, basi in petiolum cuneata, sat coriacea, glabra, supra in vivo saturate viridia et lucidula, subtus pallide viridia, in sicco viridi-brunnescentia, supra laxe distincteque, subtus obscure vel haud tuberculata, margine extremo parum revoluta glandulis distantibus instructa, subintegra vel undulata, vel profundius glanduloso-sub serrato-crenata, 8—15 cm longa, (2—)2,5—4(—5) cm lata, nervis lateralibus 6—8-paribus supra parum, subtus bene elevatis, reticulatione venarum venularumque subdensa, utrinque vel certe subtus prominula; petioli rubescentes, 0,8—1,5 cm longi, 1—1,5 mm crassi. *Racemi* abbreviati solitarii vel gemini, 4—8-flori, glabri; rhachis 0,5—1 cm longa. Pedicelli sat robusti, medio vel infra medium articulati, 3—4 mm longi. *Tepala* 4, albovirescentia vel lutescentia, in sicco nigrescentia, rotundato-ovata, ciliata, dorso glabra, intus parce pubescentia, c. 2 mm longa. *Discus* e glandulis c. 12 inter sese  $\pm$  connatis formatus. Flores  $\sigma$ : *Stamina* c. 30; filamenta glabra; antherae haud apiculatae. Flores  $\rho$ : Ovarium ovoideum, glabrum, apice in stylum brevem attenuatum, stigmatibus 2 reniformibus reflexis. *Fructus* subglobosus, virescens, c. 5 mm diam., semina 4 vel 5 continens.

NEW CALEDONIA. Vallée d'Amoa, vers 100 m, MacKee 9985 (X. '*fasciculatum*' det. Guillaumin); Haute Amoa, 30—50 m, forêt galerie sur schistes, fl.  $\rho$  15—7—1968, H. S. MacKee 19217 (P, type; L); ibid., MacKee 18772, 19215 (fl.  $\sigma$ ), 19218 (fr.); ibid., Lisière Hallier, 50 m, Schmid 452; Haute Vallée de la Tchamba, 50—100 m, MacKee 14252, 15161, 17313.

**10. *Xylosma gigantifolium* Sleumer, *nov. spec.***

Arbor 8—10 m alta; *ramuli* partibus juvenilibus cito brunneo-corticati, striati laxèque lenticellati, florigeri jam defoliati c. 5 mm diam. *Folia* ampla, oblongo-elliptica, apice per 2—3 cm longe obtuse acuminata, basi rotundata vel levissime cordata, coriacea, glabra, haud tuberculata, in sicco supra olivaceo-viridia, subtus pallidiora, margine subintegra usque subcrenato-undulata, 25—30 cm longa, 11—14 cm lata, nervis lateralibus 8—10-paribus supra parum, subtus bene prominentibus, reticulatione venarum venularumque densa utrinque prominula; petioli in sicco transverse rugosi, 2,5—3,5 cm longi, c. 3 mm diam. *Flores*  $\sigma$  tantum cogniti, e glomerulo tuberculorum in axilla foliorum delapsorum formato orti, 3—5 ad racemos vix 1 cm longos vel ad fasciculos digesti, glabri. Pedicelli basi articulati, 5—7 mm longi. *Tepala* 4, ovata, subacuminata, ciliata, extus glabra, intus albopilosa, c. 2 mm longa. *Discus* e glandulis c. 12 sat planis formatus. *Stamina* 20—25; filamenta patenter pilosula; antherae exappendiculatae. Cetera ignota.

NEW CALEDONIA. Poami, Sud-Est de Tindo (Ouest de Hienghène), forêt à Agathis sur sol  $\pm$  lessivé, sur grès schisteux, 2—9—1970, M. Schmid 3376 (L, type; Herb. ORSTOM-Nouméa).

**11. *Xylosma inaequinervium* Sleumer, *nov. spec.***

Frutex 2 m altus, *ramulis* novellis glabris citissime brunneo-corticatis, vetustioribus cortice nigrescente quadratiffisso obtectis. *Folia* densa, in eodem ramulo obovato-elliptica et elliptica, apice late attenuata et obtusa, vel rotundata, basi latius vel angustius in petiolum cuneata, coriacea, firma, glabra, haud tuberculata, in vivo supra viridia, subtus lutescenti-viridia et pallidiora, in sicco brunnescentia, utrinque lucidula, anguste marginata vix revoluta, integra, 2,5—3,5 cm longa, 1—1,8 cm lata, nervis lateralibus sat irregularibus 4—5-paribus, cum reticulo venarum utrinque bene prominentibus, rete venularum supra

tantum elevatulo; petioli applanati, 2—3 mm longi, c. 1 mm crassi. Flores ♂ tantum cogniti, ad racemos abbreviatis 5—8-floros et 5—10 mm longos ubique puberulentos digesti. Pedicelli basi articulati, 1,5—2 mm longi. Tepala normaliter 4 (interdum 5, rarissime 6 vel 7 pro parte angustiora, omnia, ut videtur, uniseriata), ovata, subacuminata, ciliata, dorso (sub)glabra, intus parce pubescentia, 1,5 mm longa. Discus e glandulis c. 10 sat crassis et truncatis formatus. Stamina 15—25; filamenta glabra; antherae minute subgloboso-apiculatae. Cetera ignota.

NEW CALEDONIA. Mont Paéoua, 800—1000 m, fl. 15—11—1968, H. S. MacKee 18420 (P, type; L).

Note. The new species repeats the type of nervation (with the reticulation of the tertiary veins limited to the upper surface of the leaves) of *Lasiochlamys planchonellaefolia*, a species which is known only from the southeastern part of the island. It would be interesting to know whether the ♀ flowers also show a certain variability in the number of the tepals and whether a species of *Lasiochlamys* occurs on Mount Paéoua, which through hybridization could be responsible for this variation.

## 12. *Xylosma bernardianum* Sleumer, nov. spec.

Frutex 2—2,5 m altus. Ramuli graciles, apicibus brevissime patenter puberuli, deorsum brunneo-corticati laxequae lenticellati, 2—3 mm tantum diam. Folia oblonga vel subelliptico-oblonga, in eodem ramulo pro parte etiam subobovata, vel omnia ± obovata, apice late attenuata, obtusa, vel rotundata, basi in petiolum cuneata, subcoriacea, inferne ad costam minute puberula, vel omnino glabra, utrinque subdense tuberculata, in vivo viridia et certe supra lucidula, subtus pallidiora, in sicco olivaceo-virentia, distanter et 0,5—1 mm profunde glanduloso-subseriato-crenata, vel subintegra, margine vix revoluta, (3—)3,5—5,5 cm longa, 1,5—2,2(—2,5) cm lata, nervis lateralibus ante marginem curvato-conjunctis 4—5-paribus supra vix, subtus parum sed distincte elevatis, venis laxae reticulatis subtus tantum prominulis, venulis ± obscuris; petioli parce puberulenti, 2—5 mm longi, vix 1 mm diam. Flores albo-virides, subglabri, 3—5 in racemum axillarem ± reductum vel fasciculum collecti. Pedicelli paullo supra basin vel ipsa basi articulati, crassiusculi, 1,5—2 mm longi. Tepala 4, ovata, ciliata, extus (sub)glabra, intus parce pubescentia, 1,5 mm longa. Discus e glandulis c. 8 parvis constitutus. Flores ♂: Stamina 20—25; filamenta glabra; antherae exappendiculatae. Flores ♀: Ovarium glabrum, stigmatibus 2 sessilibus. Fructus (ex sched. ad Bernardi 12601) atrovioleaceus.

NEW CALEDONIA. Silva Peala, W. of Pouébo, 500—600 m, fl. ♀ 6—4—1968, L. Bernardi 12601 (L, type; G, P); Forêt de Tende, Expl. for. Frouin, en forêt humide sur micaschistes, 500—600 m, MacKee 19979, 20457, 21306.

## 13. *Xylosma bouldinae* Sleumer, nov. spec.

Frutex. Ramuli recentissimi graciles, brevissime patenter puberuli, vetustiores 2—3 mm diam. cito cortice tenui brunnescente lenticellisue laxis elongato-ellipticis obsiti. Folia obovato-elliptica usque obovata, apice late attenuata vel rotundata, basi late cuneata, coriacea, glabra, utrinque tuberculata, in sicco olivaceo-brunnea et opaca (vel interdum supra nitidula), margine distanter leviterque subserrato-crenata (crenaturis obtusis usque ad 1 mm altis glandula nigrescente minuta terminatis), 4—6 cm longa, (2,5—)3—4,5 cm lata, costa in sicco supra paullo impressa, subtus basin versus gradatim crassiore et prominente, nervis lateralibus 4(—5)-paribus parum curvatis supra impressiusculis, subtus vix elevatis, reticulatione venarum supra levissime immersa vel obscura, subtus ± prominula,

ea venularum obscura; petioli initio puberuli, (3—)4—5 mm longi, 1—1,5 mm diam. *Racemi* axillares pauciflori, puberuli, ♂ tantum cogniti; rhachis gracilis c. 1 cm longa. Pedicelli graciles, c. 3 mm longi, basi articulati. *Tepala* 4, ovato-suborbiculata, carnosula, dorso glabra, intus pubescentia, 2 mm longa et lata. *Disci lobii* c. 12, minuti, crassi. *Stamina* c. 40; filamenta glabra; antherae connectivo incrassato vix apiculatae. Cetera ignota.

NEW CALEDONIA. Mt. Boulinda, c. 500 m, maquis lignoherbacé, fl. 9—11—1971, *T. Jaffré* 463 (L, type; Herb. ORSTOM-Nouméa).

#### 14. *Xylosma kaalaense* Sleumer, *nov. spec.*

Frutex 1 m altus, ramosissimus, *ramulis* gracilibus apicibus patenter puberulentis, deorsum cito cortice quadrangulariter fisso lenticellisque sparsis obtectis. *Folia* elliptica, apice late attenuata usque rotundata, basi late in petiolum angustata, subcoriacea, glabra, utrinque leviter sed distincte tuberculata, in vivo utrinque nitidula, supra viridia, subtus pallidiora, in sicco olivaceo-brunnescentia, margine distanter minuteque glanduloso-impressa, vix crenulata, 1,5—2(—3) cm longa, 1—1,5(—1,8) cm lata, nervis lateralibus c. 4-paribus cum rete venarum densissimo utrinque aequaliter laete prominulis, rete venularum ± obscuro; petioli graciles, puberulenti, 2—3 mm longi, 0,5 mm diam. *Flores* albescentes vel virides, ♂ tantum in statu nondum plane evoluto cogniti, solitarii vel bini (raro terni) brevissime racemosi vel fasciculati, axillares, glabri. Pedicelli crassiusculi, ± medio articulati, c. 3 mm longi. *Tepala* 4, ut videtur utrinque glabra (possibiliter in floribus magis evolutis intus pubescentia), ciliolata, c. 1,5 mm longa. *Discus* e glandulis c. 8 applanatis formatus. *Stamina* c. 15; filamenta glabra; antherae vix appendiculatae. Cetera desunt.

NEW CALEDONIA. Sommet Nord du Mt. Kaala, c. 1000 m, en maquis dégradé sur terrain rocheux serpentineux, fl. 9—7—1966, *H. S. MacKee* 15279 (P, type; L); *ibid.*, fl. ♂ 25—12—1966, *MacKee* 16123.

#### 15. *Xylosma confusum* Guillaumin

*X. confusum* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 25 (1953) 441 ('confusa'), 505; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 8 (1959) 123; ditto, sér. Bot. 15 (1964) 75. — Type: *Balansa* 2333 (P, holo). *X. suaveolens* auct., non (J. R. & G. Forster) G. Forster: Guillaumin, J. Arn. Arb. 7 (1926) 95; Fl. Nouv.-Caléd. (1948) 223; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 8 (1959) 123.

Specimens examined: *Balansa* 2333, 2333a; *Baumann* 13984, 14000, 14073, 14198, 15155, 15198, 15199, 15261; *Guillaumin & Baumann* 11848, 11878, 11880; *Jaffré* 738, 2650; *MacKee* 3999, 4480; *Veillon* 2870; *White* 2094.

Note. Differs from *X. suaveolens* (J. R. & G. Forster) G. Forster (type from Tahiti, also known from other islands of the Society Group, the Cook Is., Tuamotu, and the Marquesas) by its tuberculate leaves and its glabrous much longer pedicels. The specimens *Pancher* 656 (P), from 'New Caledonia', belong in fact to *X. suaveolens*, but must have been collected by Pancher during his stay on Tahiti in 1849.

#### 16. *Xylosma molestum* Sleumer, *nov. spec.*

?*X. pininsulare* auct., non Guillaumin: Guillaumin, Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 76 p.p. (*Baumann* 12463)

Frutex 1,5—2 m altus. *Ramuli* novelli puberulenti vel subglabri, vetustiores griseo-vel atrescenti-corticati sat sparse lenticellati. *Folia* elliptica vel oblongo-elliptica, apicem versus late attenuata, ipso apice obtusiuscula, basi ± late in petiolum cuneata, coriacea, firma, glabra, utrinque tuberculata, imprimis supra nitidula, in vivo supra saturate viridia, subtus pallidiora, in sicco brunnescenti-olivacea, glandulis parvis distanter et 0,5—1 mm profunde

undulato-crenata, 3—4,5 cm longa, 1,5—2,3 cm lata, costa nervisque lateralibus 4-paribus arcuato-conjunctis supra leviter, sed distincte, venis minus profunde impressis, subtus parum prominentibus, reticulo venularum generaliter sat obscuro; petioli parum applanati, rubescentes, puberulenti, 4—5 mm longi, 1 mm crassi. *Flores* lutescenti-viridescentes, (2—)3—5 ad racemos abbreviatis dispositi; rhachis gracilis puberula, 0,5—1 cm longa. Pedicelli sat graciles, puberuli, prope basin articulati, 1—2(—3) mm longi. *Tepala* 4 (raro 5), ovata, dorso subglabra, intus pubescentia, ciliolata, 1,5—2 mm longa. *Discus* e glandulis 12—15 truncatis formatus. *Stamina* 30—35; filamenta glabra; antherae vix appendiculatae. *Flores* ♀: *Ovarium* ellipsoideum, glabrum, stigmatibus 2 sessilibus reniformibus 2-lobulatis.

NEW CALEDONIA. Contrefort Ouest du Mé Maoya au dessus de la mine Emma, maquis dégradé sur terrain serpentineux, 1200 m, fl. ♀ 2—10—1965, H. S. MacKee 13507 (P, type); Mt. Paéoua, plateau sommital, 900—1100 m, fl. ♂ 14—10—1967, MacKee 17711.

Very similar in leaves, which bear a fine puberulence underneath: Oua Tilou, crête du sommet, 1100 m, fr. transformé en galles, 14—5—1951, Baumann 12463 (P, Z).

Note. The new species is in habit close to *X. bernardianum*, which, however, has the lateral nerves always slightly raised on the upper face of the lamina in dry specimens.

On the summit plateau of Mt. Paéoua occurs a *Xylosma* with obovate leaves, which otherwise is very similar to *X. molestum* in the texture and the impressed nervation of the leaves; its floral and fruiting parts are poor in the specimen at hand (MacKee 17708). Further collections on Mt. Paéoua are needed to judge the variability of *X. molestum* there.

# 17. *Xylosma tuberculatum* Sleumer, nov. spec.

Frutex erectus, 2 m altus. *Ramuli* graciles, partibus recentissimis glabri, vetustioribus cortice tenui griseo lenticellisque sparsis obtecti. *Folia* ovata vel oblongo-ovata, apice sensim per 1,5—2 cm subfalcato-attenuata vel generaliter subcaudato-acuminata, apice ipso obtusa, basi late in petiolum cuneata, interdum paullo inaequilateralia, subcoriacea, in vivo supra saturate, subtus pallide viridia, utrinque lucidula, in sicco brunnescenti-viridia, glabra, utrinque subdense tuberculis obsita, regulariter subseriato-crenata (dentibus glanduliferis  $\pm$  1 mm altis), 3—7 cm longa, 2—4 cm lata, nervis lateralibus c. 5-paribus utrinque parum elevatis, reticulatione venarum venularumque densa utrinque imprimis subtus prominula; petioli graciles, rubescentes, 5—9 mm longi, 0,5—1 mm crassi. *Racemi* valde abbreviati, c. 5 mm longi, vel fasciculi axillares 2—5-flori, glabri. Pedicelli graciles, paullo supra basin articulati, sub anthesi 4—6, sub fructu 6—8 mm longi. *Tepala* 4, viridia, ovato-elliptica, ciliata, dorso glabra, intus parce pubescentia, 2 mm longa. *Disci glandulae* 4—8 applanatae. *Flores* ♂: *Stamina* c. 15; filamenta glabra; antherae connectivo crasso minute apiculatae. *Flores* ♀: *Ovarium* ovoideum, glabrum, apice in stylum crassum vix 1 mm longum contractum, stigmatibus 2 reniformibus minutis vix lobulatis, ovula 4 continens. *Fructus* subglobosus, viridis, c. 6 mm diam., semina 1 vel 2 continens.

NEW CALEDONIA. Haute Nepoui, Oua Péoué, pente Ouest du Mt. Paéoua, 900 m, forêt humide sur périodites, fr. imm. 9—7—1970, H. S. MacKee 22235 (P, type; L); Mt. Paéoua, 800—1100 m, MacKee 17694, 22221, 26871.

# 18. *Xylosma lifuanum* Guillaumin

*X. lifuanum* Guillaumin, Bull. Soc. Bot. Fr. 66 (1920) 312 ('lifuana'); Sarasin & Roux, Nova Caledonia 1, 3 (1921) 184; Sleumer, Notizbl. Berl.-Dahl. 14 (1938) 297; Guillaumin, Fl. Nouv.-Caléd. (1948) 223; Bull. Mus. Nat. Hist. Nat. Paris II, 25 (1953) 506; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 75. — *T y p e s*: *Balansa* 2154 (G, K, P, Z), 2332 (P, holo lecto; BM, K, Z).

Only known from the Loyalty Is.: Lifou, Maré, and Île des Pins.

Specimens examined: *Balansa* 2154, 2332; *Baumann* 13463, 14533, 14567, 14714, 14773; *Däniker* 2460, 2490; *Franc* 1040; *MacKee* 25427; *Sarasin* 832; *Schmid* 1276, 2208; *Viro* 1048.

#### EXCLUDED

*Xylosma caledonicum* (Briquet) Briquet, Ann. Cons. Jard. Bot. Genève 4 (1900) 220, based on *Myroxylon caledonicum* Briquet, op. cit. 2 (1898) 58 = *Drypetes deplanchei* (Brongn. & Gris) Merrill, J. Arn. Arb. 32 (1951) 199.

*Xylosma subsessilifolium* Guillaumin, Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 8 (1959) 123 = *Salaciopsis neo-caledonica* Baker f., det. H. K. Airy Shaw.

### 3. CASEARIA

*Casearia* Jacq., En. Pl. Carib. (1760) 4. — *Melistaureum* J. R. & G. Forster, Char. Gen. Pl. (1776) 143, t. 72; Besch. Gatt. (1779) 150 & XVII, f. 52.

A pantropical genus with more than 180 species; about 20 occur in the Pacific (mainly in its eastern part), about 6 of which are found in New Caledonia. All species in the Pacific belong to sect. *Casearia* and are mutually closely related. Their distinction is based on a combination of floral and vegetative characters; sterile specimens cannot be named with certainty.

*C. melistaureum* Spr., limited to New Caledonia (incl. Île Art and Île des Pins), has been mentioned by Guillaumin (J. Arn. Arb. 13, 1932: 126) for the New Hebrides (Aneityum). The respective specimen (*Wilson* 981) represents another, not yet described species. Of several other apparently new species materials have been collected on Samoa, Tonga, and the Society Islands. The genus needs a revision for the whole of the Pacific.

#### KEY TO THE SPECIES

1. Tepals 4—5 mm long at anthesis.
  2. Leaves subcoriaceous, rather faintly reticulate (similar to those of *C. melistaureum*). Flowers pedicelled at anthesis for 2—3(—5) mm . . . . . 1. *C. puberula*
  2. Leaves coriaceous, manifestly reticulate. Flowers (sub)sessile . . . . . 2. *C. coriifolia*
1. Tepals 1.5—2 (rarely —3) mm long at anthesis.
  3. Leaves linear, 6—12 by 0.8—1.3 cm. . . . . 3. *C. kaalaensis*
  3. Leaves differently shaped, generally wider than 2 cm.
    4. Leaves chartaceous to thinly subcoriaceous, flexible, small in general (rarely up to 7 cm long) and petiolate for 3—5 mm.
      5. Leaves oblong to oblong-obovate, apex broadly and obtusely attenuate to rounded, rarely emarginate . . . . . 4. *C. deplanchei*
      5. Leaves elliptic to subovate, apex obtusely subacuminate . . . . . 5. *C. lifuana*
    4. Leaves subcoriaceous to coriaceous, more firm, in general larger and petiolate for more than 5 mm. . . . . 6. *C. melistaureum*

#### 1. *Casearia puberula* Guillaumin

*C. puberula* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 4 (1932) 694; Fl. Nouv.-Caléd. (1948) 223. — Types: *Le Rat* 201 (P, holotype; Z), 2831 (L, P).

*C. melistaureum* auct., non Spr.: Guillaumin, Bull. Soc. Bot. Fr. 88 (1941) 643; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 73.

Specimens examined: *Blanchon* 1133; *Cribs* 1686; *Däniker* 478; *Franc* 1955; *Hürlimann* 115, 331; *Le Rat* 201, 324, 2831; *MacKee* 20185, 26720; *Raoul s.n.*; *Schmid* 3471; *Veillon* 460, 1006.

Note. Sterile specimens cannot be distinguished from those of *C. melistaurum*. In the area of the Rivière Bleue and possibly also in other localities the two species seem to occur together.

## 2. *Casearia coriifolia* Lescot & Sleumer, *nov. spec.*

Frutex 1,5—2 m altus. *Ramuli* apicibus glabri, citissime griseo-corticati lenticellisque elongato-ellipticis pustulati, in partibus vetustioribus cortice griseo usque ad 2 mm crasso irregulariter quadrangulariter et  $\pm$  profunde fissis obtecti. *Folia* elliptico-oblonga usque oblonga, apice breviter attenuata vel subacuminata, ipso apice obtusiuscula, basi haud raro leviter inaequilaterali cuneata et in petiolum canaliculatum vel complicatum paullo decurrentia, in vivo viridia, in sicco olivacea, nitidula, glabra, coriacea, sparse pellucido-punctata et -lineata, integra, 6—15(—18) cm longa, (2—)3—6,5 cm lata, costa supra inferne impressiuscula vel plana, subtus crasse prominente, nervis lateralibus 7—8-paribus utrinque parum prominentibus, rete venarum venularumque densissimo utrinque parum sed laete elevato; stipulae caducissimae; petioli 1—1,8(—2) cm longi, 1,5—2 mm lati. *Glomeruli* axibus pluribus 2—4 mm longis multibracteatis apice flore unico (raro floribus 2) praeditis constituti, 3—5 mm diam. *Flores* sessiles vel vix 1 mm longe pedicellati. *Tepala* 5, ovato-rotundata, albida, tenera, glabra, vix pellucido-punctata, ciliata, 4,5—5 mm diam. *Stamina* 8 (raro 9); filamenta glabra, alternatim longit.  $\frac{1}{2}$  antherae longiora vel breviora; antherae ovato-ellipticae, haud vel vix apiculatae. *Disci* processus rectangulariter clavati, crassi, apice hirsutuli. *Ovarium* ovoideum, glabrum vel superne paucepilosum; stigma capitatum. *Fructus* submaturus sordide ruber, ellipsoideus, vix costatus, glaber, in sicco 2,5 cm longus et 1,5 cm diam., basi tepalis marcescentibus fultus, sessilis.

NEW CALEDONIA. Mt. Do, plateau sommital, 800—1000 m, fl. 28—11—1966, *MacKee* 15966; *ibid.*, fr. 26—1—1972, *MacKee* 24910; *ibid.*, fl. 28—10—1969, *H. S. MacKee* 21096 (P, type; L), en forêt dense Araucaria-Nothofagus, sur terrain serpentineux; *ibid.*, fl. 28—10—1969, *J.-M. Veillon* 2050.

## 3. *Casearia kaalaensis* Lescot & Sleumer, *nov. spec.*

Frutex erectus, 0,7—1 m altus. *Ramuli* graciles, partibus novellis glabri citoque lenticellati et corticati, partibus vetustioribus tenuiter griseo-corticati, 2—3 mm tantum diam. *Folia* sparsa, linearia, apice obtuse attenuata, basi in petiolum cuneata, sicco supra saturate olivaceo-viridia, subtus pallidiora, utrinque nitida, subcoriacea, glabra, sat dense minute pellucido-punctata, margine paullo revoluta et integra, 6—12 cm longa, 0,8—1,3 cm lata, costa quam lamina in sicco multo pallidiora, utrinque sat crasse elevata, nervis lateralibus 12—14-paribus, inter sese curvato-conjunctis utrinque parum sed distincte prominentibus, reticulatione venarum et venularum densa utrinque prominula; petioli 2—4 mm longi, c. 1 mm crassi; stipulae triangulares, 1 mm longae, caducae. *Glomeruli* vel fasciculi in axillis foliatis vel jam defoliatis multibracteati, (3—)5—7 (raro —10)-flori. *Flores* sessiles vel brevissime pedicellati, in statu juvenili tantum cogniti; bractee flores involucranter membranaceae, longitudine tepalorum. *Tepala* 5 subrotundata, membranacea, lutescentia vel albescentia, c. 1,8 mm longa, glabra, ciliolata, sparse pellucido-punctata. *Stamina* 6 subaequalia; filamenta glabra; antherae vix apiculatae. *Disci* lobi clavati, dense pilosi. *Ovarium* glabrum, stigmate capitato. *Fructus* adhuc deest.

NEW CALEDONIA. Mt. Kaala, pente Sud, 20—200 m, maquis sur terrain rocheux serpentineux, fl. 10—10—1965, *H. S. MacKee* 13547 (P, type; L); *ibid.*, 300—600 m, fl. 10—9—1967, *MacKee* 17491.



#### 4. *Casearia deplanchei* Sleumer, *nov. spec.*

Frutex vel arbor parva, trunco usque ad 20 cm diam. (MacKee 26007). *Ramuli* graciles, partibus recentissimis rubescentibus glabris, vetustioribus cito cortice tenui griseo-nigrescente lenticellisque minutis late ellipticis parum elevatis obtecti. *Folia* oblonga vel oblongo-obovata, interdum in eodem ramulo pro parte obovata, apice late obtuse attenuata usque rotundata, interdum paullo emarginata, basi breviter in petiolum cuneata, chartacea vel tenuiter subcoriacea, flexilia, glabra, dense pellucido-punctata et -striata, in sicco lutescenti-viridia vel brunnescentia, utrinque nitidula, margine subrevoluto integra, (2,5—)3—6 (raro —7) cm longa, 1,5—2,5 (raro —3) cm lata, costa supra elevatula, subtus magis prominente, nervis lateralibus (5—)6(—7)-paribus ante marginem inter sese  $\pm$  distincte curvato-conjunctis, cum reticulo venarum venularumque denso utrinque laete prominulis; petioli graciles, glabri, 3—5 mm longi, vix 1 mm crassi; stipulae caducissimae. *Glomeruli* axillares subovoidei sat pauciflori, bracteis in sicco rubescentibus 1—2 mm diam. *Flores* sessiles vel vix 1 mm longe pedicellati. *Tepala* 5, suborbicularia, (sub)glabra, albida, ciliolata, 1,8—2,5 mm diam., vix pellucido-punctata. *Stamina* (8) 10, subaequalia; filamenta glabra, fere 2 mm longa; antherae vix apiculatae. *Disci* lobi lineares, vix filamentorum longit. aequantes, apice sat dense barbati. *Ovarium* glabrum; stigma capitatum. *Fructus* adhuc deest.

NEW CALEDONIA. Île Tanlé, a. 1861—67, *Deplanche* 427 (P, type; G, K, L), 429; *ibid.*, *Pancher* 98 (prob. = *Deplanche* 427), *Vieillard* 2234 = 2498 (prob. = *Deplanche* 427); Koumac, crête calcaire rocheuse au Nord du Ruisseau Grande Forêt, 250 m, fl. 1—12—1972, *MacKee* 26007; Mt. Boulinda, *Jaffré* 970, 1003.

#### 5. *Casearia lifuana* Däniker

*C. lifuana* Däniker, Vierteljahrsschr. Nat. Ges. Zürich 78, Beibl. 19 (1933) 275; Guillaumin, Fl. Nouv.-Caléd. (1948) 223. — *Type*: Däniker 2300 (Z, holo).

An incompletely known species, once found on the I. of Lifu in a bushy forest near Chépénéhé. The type does not properly correspond with any of the *Casearias* from the 'Grande Terre'. The 3 specimens indicated by Guillaumin as *C. lifuana* (Bull. Soc. Bot. Fr. 88, 1941: 643) belong to *C. melistaurum* Spr.; of the 2 specimens cited by him in 1964 (Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15, 1964: 73, resp. J. Agric. Trop. & Bot. Appl. 11, 1964: 99) as *C. lifuana* the one from the Rivière Bleue belongs to *Lasiochlamys rivularis* Sleumer and the one from the Tontouta R. to *C. melistaurum* Spr.

#### 6. *Casearia melistaurum* Sprengel

*C. melistaurum* Sprengel, Syst. 2 (1825) 354; DC., Prodr. 2 (1825) 51; Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 62; Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 156; Baker f., J. Linn. Soc. Bot. 45 (1921) 319; Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 4 (1932) 692, 694; Bull. Soc. Bot. Fr. 88 (1941) 643; J. Agric. Trop. & Bot. Appl. 11 (1964) 99; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 73 & 74 p.p. — *Melistaurum distichum* J. R. & G. Forster, Char. Gen. (1776) 144, t. 72; Fl. Ins. Austr. Prodr. (1786) 93; Icon. (ined.) t. 301; non *C. disticha* A. Gray 1854. — *Samyda polyandra* Willd., Sp. Pl. 2 (1799) 626, nom. ill. (Code § 64); Endl., Ann. Wien. Mus. Naturgesch. 1 (1833) 178. — *Type*: J. R. & G. Forster a. 1774 (BM, holo; GOET, P, S).

*C. silvana* Schlechter, Bot. Jahrb. 39 (1906) 198; Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 156; Schinz & Guillaumin in Sarasin, Nova Caledonia, Bot. 1 (1921) 185, White, J. Arn. Arb. 7 (1926) 95; Däniker, Vierteljahrsschr. Nat. Ges. Zürich 78, Beibl. 19 (1933) 275, 276. — *Type*s: *Schlechter* 15076 (B, hololecto  $\dagger$ ; BM, G, HBG, K, L, WRS), 15114 (B,  $\dagger$ ; BM, G, HBG, K, L, P, WRS), 15370 (B,  $\dagger$ ; BM, G, HBG, K, L, P, WRS).

*C. melistaurum* Sprengel var. *minor* Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 64. — *Type*s: *Vieillard* 339 (G, hololecto; P, W, Z), 1168 (G, P), 1169 (G), 1170 (G); *Deplanche* 35 (G).

- C. melistaurum* Sprengel var. *germainii* Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 64. — T y p e: Germain 16 (G, holo).
- C. silvana* Schlechter var. *oubatchensis* Schlechter, Bot. Jahrb. 39 (1906) 198; Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 156; Schinz & Guillaumin in Sarasin, Nova Caledonia, Bot. I (1921) 185; Däniker, Vierteljahrsschr. Nat. Ges. Zürich, 78, Beibl. 19 (1933) 276. — T y p e: Schlechter 15520 (B. holo, †; BM, G, HBG, K, L, P, WRSI, Z).
- C. comptonii* Baker f., J. Linn. Soc. Bot. 45 (1921) 319; Däniker, Vierteljahrsschr. Nat. Ges. Zürich 78, Beibl. 19 (1933) 274; Guillaumin, Fl. Nouv.-Caléd. (1948) 223. — T y p e: Compton 2290 (BM, holo).
- C. disticha* auct., non A. Gray: Däniker, Vierteljahrsschr. Nat. Ges. Zürich 78, Beibl. 19 (1933) 274.
- C. puberula* auct., non Guillaumin: Guillaumin, Bull. Soc. Bot. Fr. 88 (1941) 643.
- C. lifuana* auct., non Däniker: Guillaumin, Bull. Soc. Bot. Fr. 88 (1941) 643; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 73; J. Agric. Trop. & Bot. Appl. 11 (1964) 99.

Specimens examined: *W. Anderson* (Cook's 2nd voy.) a. 1774 (BM); *Aubréville & Heine* 58; *Balansa* 120, 121, 402, 1275, 1276, 1276a, 1276c, 1790, 1790a, 3539; *Baudouin* 212, 296; *Baumann* 5374, 6239, 8255, 13474, 13494, 13502, 13641, 13954, 13988, 13990, 14157, 14302, 14380, 15269, 15823, 15916; *Bernardi* 9630; *Blanchon* 529, 1345; *Caldwell* a. 1868 (K); *Catala* in *Baumann* 7322, 7457; *Compton* 55, 1011, 2156, 2204, 2290, 2377; *Cribs* 1709, *Däniker* 296, 1010, 1311, 2751, 2751a; *Deplanche* 105, 305, 315, 399; *J. R. & G. Forster* (Cook's 2nd voy.) a. 1774; *Franc* 60, 61, 188, 536, 1511, 1927, 3064; *Garigou* 2037, *Germain* 16; *Green* 1242; *Guillaumin* 8578, 9858; *Guillaumin & Baumann* 6646, 6648, 6892, 6965, 7877, 7975, 8838, 9029, 9201, 9697, 9710, 9713, 10096, 10324, 10737, 10903, 11079, 11080, 11132, 11192, 11589, 11845, 11851, 12135; *Hürlimann* 370, 417, 541, 1168, 1215; *Jaffré* 135, 369, 681, 731, 945, 1009, 1012, 1028, 1036, 1182; *Lahaie* 1470; *Le Rat* 159, 285, 344, 389, 503, 567, 582, 2673; *Mac Daniels* 1035, 2467; *MacKee* 2436, 3312, 3339, 4330, 4728, 5469, 5612, 7738, 7897, 11989, 12241, 12778, 13729, 14078, 14418, 15769, 16027, 16552, 17978, 18745, 19411, 19638, 20904, 21133, 22661, 23135, 23156, 23450, 23494, 26029, 26038; *Nothis* 563; *Pancher* 34, 35, 185, 186; *Sarasin* 617; *Schlechter* 15076, 15114, 15370, 15520, 15685; *Schmid* 725, 1600, 2733, 4078; *Stone* c.s. 10534; *Thorne* 28083, 28239; *Veillon* 498, 499, 528, 1594, 1854, 2471, 2764; *Vieillard* 168, 169, 170, 339, 1168, 1169, 1170, 2496, 2497, 2499, 2500, 2503; *Viot* 534, 945, 983, 1160, 1241, 1505.

Specimens differing by a more marked reticulation and with the leaves attenuate both at base and apex, but hardly differing in flower characters: *MacKee* 20033, 20112, 20125, 25827; *Stauffer* 5772, 5779.

Notes. *C. melistaurum* is the most widely distributed species of the genus on New Caledonia (incl. Île Art and Île des Pins), occurring as well in dense humid forest as in gallery forest and in more open shrub formations, on various soils (peridotites, micaschistes — Col d'Amos, type locality — and meso-nummulitic schistes), from the coast to about 950 m above sea level, showing a remarkable variability in the shape, size, and texture of the leaves, the distinctness of the reticulation, the density of the pellucid points and/or striations in the leaves, in the leaf-margin (entire to coarsely crenate), and the number of flowers per inflorescence (few-flowered fascicles to glomerules of about 1 cm diam.). Specimens growing in humid forest generally seem to have larger and thinner leaves, those growing in more open and drier places have smaller and often more coriaceous leaves. The present author sees no possibility to distinguish  $\pm$  constant morphological varieties or forms, or to join them to distinct ecological features in the material at hand. Field studies, however, might reveal such morphological and ecological patterns combined to locally  $\pm$  homogenous races or ecotypes. Such studies should start with a thorough examination of the variability of *C. melistaurum* in its type area near Balade (Mt. Amos etc.), where the species recently has been recollected several times (*MacKee* 4728, 26029, 26038, *Schmid* 1600).

*C. disticha* A. Gray (Fiji Is.) differs from *C. melistaurum* by generally less coriaceous leaves, subsistent stipules, constantly few-flowered fascicles, and a constantly glabrous ovary.

*C. melistaurum* var. *minor* Briquet, mentioned by Guillaumin in J. Agric. Trop. & Bot. Appl. 11 (1964) 99, based on *MacKee* 7788, belongs to *Celastraceae*.

#### 4. HOMALIUM

*Homalium* N. J. Jacquin, En. Pl. Carib. (1760) 524. — *Blackwellia* Comm. ex Juss., Gen. Pl. (1789) 343.

A pantropical genus with more than 200 species; about 24 are known from the Pacific, apparently all endemic; about 16 of these occur in New Caledonia.

The delimitation of natural species in *Homalium* is difficult due to a  $\pm$  pronounced accrescence of pedicels, calyx tube, sepals, and/or petals from early anthesis towards fructification; the indument may accordingly become less dense. Only a sufficient number of specimens (and in the first place such of the type area) of a species allows one to recognize clearly the extremes as to shape and size of the floral parts. There are also pairs of morphologically closely related species (ecological forms ?) with separate areas of distribution in New Caledonia, the distinctive characters of which (such as given in the key) might be effaced by new collections from intermediate localities. For these reasons, the treatment of the genus given here remains tentative.

#### KEY TO THE SPECIES

1. Stamens always solitary before each petal. (Subgenus *Blackwellia* Warb.)

**1. *H. serratum***

1. Stamens normally in groups of 3—5(—12) before each petal (Subgenus *Homalium*).

2. Leaves obovate to obovate-oblong or -elliptic, (sub)sessile as the lamina is  $\pm$  decurrent along the petiole.

3. Leaves subcoriaceous, (1.5—)2—2.7 by 0.8—1.5 cm; reticulation but little prominent on both faces . . . . . **2. *H. buxifolium***

3. Leaves coriaceous, stiff, generally much larger; reticulation markedly prominent on both faces.

4. Leaves obovate-spathulate,  $\pm$  profoundly crenate

**3. *H. kanaliense* var. *kanaliense***

4. Leaves subobovate-elliptic or -oblong, faintly or not crenate

**3. *H. kanaliense* var. *boulindae***

2. Leaves not  $\pm$  obovate, distinctly petiolate (lamina hardly or not decurrent along to the petiole).

5. Leaves finely patently short-pubescent all over both faces or at least on the lower face, even in the adult state . . . . . **4. *H. rubiginosum***

5. Leaves glabrous (or essentially so, fine short hairs may be found on the midrib and nerves in the lower half of the undersurface, and on the petiole initially).

6. Flowers (sub)sessile (also at fructification).

7. Sepals distinctly shorter than the petals, both dorsally with  $\pm$  spreading hairs and both markedly accrescent towards fructification

**5. *H. austro-caledonicum***

7. Sepals very similar to the petals, both dorsally with  $\pm$  appressed hairs and both but little accrescent towards the fructification . . . **6. *H. deplanchei***

6. Flowers distinctly pedicelled (at least for 0.5 mm at the lowest flowers of an inflorescence, the pedicels possibly more or less enclosed or even hidden by the adherent bracts and/or bracteoles, especially in early anthesis).

8. Inflorescence all over (incl. also pedicels and calyx tube) hirsute by coarse spreading hairs. Branchlets  $\pm$  acutangular or even winged. Bracts broad, their nervation visible . . . . . **7. *H. decurrens***

8. Inflorescences all over pubescent by short (generally  $\pm$  appressed) hairs. Branchlets (sub)terete. Bracts narrow, their nervation not visible.

9. Sepals already at anthesis different from the petals in shape and size (sepals shorter, narrower, and more acute than the petals).

10. Leaves rigidly coriaceous, subentire or glandular-denticulate, 12—19 by 7—12 cm; petioles robust . . . . . **8. *H. rubrocostatum***
10. Leaves coriaceous, coarsely crenate to undulate, (4—)6—12 (rarely —15) by 2.5—6.5 (rarely —8) cm; petioles more slender.
11. Calyx tube c. 2 mm long, very shortly or hardly attenuate at the base. Pedicels rather robust . . . . . **9. *H. guillauminii***
11. Calyx tube c. 4 mm long, long-attenuate to subtipitate at the base. Pedicels slender. . . . . **10. *H. francii***
9. Sepals at anthesis  $\pm$  similar to the petals (petals may become more accrescent than the sepals towards fructification).
12. Stamens distinctly (c.  $\frac{1}{2}$ ) shorter than the sepals at anthesis. Filaments glabrous.
13. Flower length (calyx tube plus sepals or petals) attaining (6—)7—8 mm at or a little past anthesis . . . . . **11. *H. intermedium***
13. Flower length (calyx tube plus sepals or petals) attaining 4—5 mm at or a little past anthesis. . . . . **12. *H. rivulare***
12. Stamens as long as or longer than sepals or petals at anthesis. Filaments glabrous or hairy.
14. Bracteoles as long as or a little longer than the pedicel, enclosing it or connate with it (seemingly inserted at the apex of the pedicel or at the base of the calyx tube respectively).
15. Petioles 2—3 mm long. Filaments patently pubescent in the lower  $\frac{1}{3}$  or  $\frac{1}{2}$  part. . . . . **13. *H. mathieuanum***
15. Petioles (4—)6—10 mm long. Filaments glabrous . . . . . **14. *H. juxtapositum***
14. Bracteoles shorter than the pedicel which is thus free at least in its upper part.
16. Inflorescence very slender; pedicels almost filiform. Petioles 3(—5) mm long. Filaments hairy all over . . . . . **15. *H. polystachyum***
16. Inflorescence slender; pedicels more robust. Petioles 5—10 (—20) mm long. Filaments with very sparse hairs at base to glabrous . . . . . **16. *H. le-ratiorum***

### 1. *Homalium serratum* Guillaumin

*H. serratum* Guillaumin, Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 73. — Type: *Guillaumin 13359* (P, holo; Z).

*H. polystachyum* auct., non (Vieillard) Briquet: Guillaumin, Bull. Soc. Bot. Fr. 88 (1941) 645.

*H. paitense* auct., non Guillaumin: Guillaumin, Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 72.

*H. sylvicolum* auct., non Baker f.: Guillaumin, Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 73.

Specimens examined: *Balansa 1021a, 3617; Guillaumin 13359, 13361; Hürlimann 1268, 1283; MacKee 2402, 14669, 16897, 18105, 25110, 26000.*

### 2. *Homalium buxifolium* Däniker

*H. buxifolium* Däniker, Vierteljahrsschr. Nat. Ges. Zürich 78, Beibl. 19 (1933) 276; Guillaumin, Fl. Nouv.-Caléd. (1948) 222. — Type: *Däniker 1569* (Z, holo; L & P, phot.).

Specimens examined: *Däniker 1569; MacKee 25289.*

### 3. *Homalium kanaliense* (Vieillard) Briquet

*Blackwellia kanaliensis* Vieillard, Bull. Soc. Linn. Normand. 10 (1866) 112. — *H. kanaliense* Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 53; Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 157; Schinz &

Guillaumin in Sarasin, Nova Caledonia, Bot. 1 (1921) 184; Baker f., J. Linn. Soc. Bot. 45 (1921) 320; Däniker, Vierteljahrsschr. Nat. Ges. Zürich 78, Beibl. 19 (1933) 278; Guillaumin, Fl. Nouv.-Caléd. (1948) 221 ('kanalense'); Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 72. — T y p e: Vieillard 21 (CN, holo, n.v.; P).

#### var. *kanaliense*

Specimens examined: Balansa 3039; Baumann 6300, 6436; Blanchon 124, 213, 597; Buchholz 1707; Compton 378; Cribbs 681, 1733; Däniker 2757; Deplanche 400; Franc 216, 216 bis, 226, 301, 1659; Guillaumin & Baumann 10759, 10833, 11747, 11812; Hürlimann 643, 1455, 3163, 3286; Le Rat 407; Mac Daniels 2517; MacKee 2060, 2383, 2654, 11985, 14515, 16314, 20229, 23361; Sarasin 651; Stauffer & Blanchon 5802; Veillon 1107; Vieillard 21; Virot 618, 720.

Note. Cited by Guillaumin (1911) also from Île des Pins (leg. Jeaneney); very doubtful if really from there.

#### var. *boulindae* Sleumer, *nov. var.*

Folia (sub)obovato-elliptica vel-oblonga, in petiolum  $\pm$  2 mm longum subalato-decurrentia, (3—)5—8 cm longa, 1.5—4 cm lata, margine glandulis minutis parum impressis subcrenulata vel undulata, vel subintegra. Floribus cum var. *kanaliense* congruit, sed stamina interdum 4(5)-fasciculata sunt.

Typus: Veillon 2235, Mt. Boulinda, vers 500 m, fl. 9-12-1970 (L, type; Herb. OR-STOM-Nouméa).

Specimens examined: Bernardi 12682; Blanchon 1582; Veillon 1746, 2235.

Note. This variety is possibly due to an introgression of *H. kanaliense* by *H. deplanchei*, a species once collected on Mt. Boulinda (Jaffré 478).

### 4. *Homalium rubiginosum* (Vieillard) Warburg

*Blackwellia rubiginosa* Vieillard, Bull. Soc. Linn. Normand. 10 (1866) 108. — *H. rubiginosum* Warburg in E. & P., Nat. Ph. Fam. III, 6a (1893) 36; Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 51; Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 157, Bull. Soc. Bot. Fr. 88 (1941) 645; Fl. Nouv.-Caléd. (1948) 222. — T y p e: Vieillard 2076 (CN, holo, n.v.; BM, G, K, L, P, W).

Specimens examined: Lécarré a. 1876; MacKee 21715, 26355; Vieillard 2076.

Note. Compton 1267, published by Baker f., J. Linn. Soc. Bot. 45 (1921) 320, as *H. rubiginosum*, belongs to *H. le-ratiorum*. Lécarré a. 1876 (P) differs by more appressed hairs on the midrib of the undersurface of the leaves.

### 5. *Homalium austro-caledonicum* Seemann

*H. austro-caledonicum* Seemann, Fl. Vit. (1865) 95; Baker f., J. Linn. Soc. Bot. 45 (1921) 320; Guillaumin, Bull. Soc. Bot. Fr. 88 (1941) 643; Fl. Nouv.-Caléd. (1948) 221. — T y p e: MacGillivray 30 (BM, holo; G, K, P, S).

*Blackwellia montana* Vieillard, Bull. Soc. Linn. Normand. 10 (1866) 110. — *H. montanum* Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 54; Schlechter, Bot. Jahrb. 39 (1906) 198; Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 157. — T y p e: Vieillard 23 (CN, holo, n.v.; B, BM, G, HBG, K, L, P, W). *H. intermedium* Briquet var. *ngoyense* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 4 (1932) 692. — T y p e: Franc 2441 (P, holo; K, W).

Specimens examined: Balansa 1751; Blanchon 807; Compton 2234; Franc 174, 194, 248, 1657b, 2441; Le Rat 2586; MacGillivray 30; MacKee 13323, 14145, 14675, 16389, 16507, 18454, 24960; Schlechter 15106; Thiébaud 259, 370; Veillon 1883, 2763; Vieillard (leg. Deplanche) 23.

## 6. *Homalium deplanchei* (Vieillard) Warburg

*Blackwellia deplanchei* Vieillard, Bull. Soc. Linn. Normand. 10 (1866) 110. — *H. deplanchei* Warburg in E. & P., Nat. Pl. Fam. III, 6a (1893) 36; Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 52; Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 157; Däniker, Vierteljahrsschr. Nat. Ges. Zürich 78, Beibl. 19 (1933) 277; Guillaumin, Bull. Soc. Bot. Fr. 88 (1941) 645; Fl. Nouv.-Caléd. (1948) 221; Bull. Mus. Nat. Hist. Nat. Paris II, 29 (1957) 262; J. Agric. Trop. & Bot. Appl. 11 (1964) 99; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 72. — T y p e s: Vieillard 2204 (CN, holotype, n.v.; BM, L, P); Deplanche 125 (CN, n.v.; P).

*H. arboreum* Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 53; Guillaumin, Bull. Soc. Bot. Fr. 88 (1941) 645; Fl. Nouv.-Caléd. (1948) 221; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 72. — T y p e s: Vieillard 2504 (G, holotype; BM, K, P, W); Charpentier a. 1858/61 (G).

[*H. neglectum* Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 157, nom. nud. (based on Pancher 183).] *H. guilainii* auct., non Guillaumin: Baker f., J. Linn. Soc. Bot. 45 (1921) 320.

Specimens examined: Balansa 510, 2768, 3144, 3615; Baumann 8153, 15316; Bernardi 10273, 12512, 12542, 12743; Blanchon 713; Brousmiche 314; Charpentier a. 1858/61; Compton 788, 895; Däniker 871, 1254, 1319, 1497, 1497a; Deplanche 68, 79, 125, 136, 317, 318; Foster 192; Franc 244, 248, 327, 2296; Guillaumin 13367; Guillaumin & Baumann 11093, 11113, 11352, 12301; Hürlimann 386, 1038; Jaffré 245, 478, 507, 625, 664, 685; Le Rat 571; MacKee 1966, 2433, 3319, 3967, 4277, 4842, 5530, 7963, 9892, 10076, 11888, 12769, 13551, 14544, 14672, 15448, 15761, 16617, 16698, 20327, 20362, 20849, 23026, 23038, 23142, 25518, 25590, 25597, 26237, 26465, 26942, 27325; Mc Millan 5091, 5214; Pancher 183; Sarlin 159; Stauffer, Blanchon & Boulet 5784; Thorne 28267; Veillon 1475, 2239, 2244, 2261, 2824; Vieillard 22 p.p., 2204, 2204bis, 2504, 2507, 2508, 2510; Virot 547, 1345.

## 7. *Homalium decurrens* (Vieillard) Briquet

*Blackwellia decurrens* Vieillard, Bull. Soc. Linn. Normand. 10 (1866) 105. — *H. decurrens* Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 50; Schlechter, Bot. Jahrb. 39 (1906) 198; Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 156; Bull. Soc. Bot. Fr. 88 (1941) 645; Fl. Nouv.-Caléd. (1948) 221. — T y p e s: Vieillard 24 (CN, holo, n.v.; G, L, P).

*Blackwellia austro-caledonica* Vieillard, Bull. Soc. Linn. Normand. 10 (1866) 107. — *H. vieillardii* Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 50; Däniker, Vierteljahrsschr. Nat. Ges. Zürich 78, Beibl. 19 (1933) 278; Guillaumin, Bull. Soc. Bot. Fr. 88 (1941) 645; Fl. Nouv.-Caléd. (1948) 221; not *H. austro-caledonicum* Seemann, 1865. — T y p e s: Vieillard 2201 (CN, holo, n.v.; G, K, L, P).

*H. austro-caledonicum* auct., non Seemann: Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 156.

*H. intermedium* auct., non (Vieillard) Briquet: Däniker, Vierteljahrsschr. Nat. Ges. Zürich 78, Beibl. 19 (1933) 277.

*H. hirsutum* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 29 (1957) 262. — T y p e s: Foster 187 (P, holo).

Specimens examined: Balansa 3145; Däniker 1236, 1236a, 3005; Foster 187; MacKee 4833a, 14314, 16177, 21035, 23257; Pancher 501, 660; Schlechter 15556; Schmid 3445; Vieillard 24, 2201.

## 8. *Homalium rubrocostatum* Sleumer, spec. nov.

Frutex erectus, 60 cm altus. Ramuli robusti (5 mm diam.), glabri, citissime griseo-corticati, cortice lenticellis numerosis elongatis elevatis longitudinaliter fissis. Folia elliptica vel ovato-elliptica, apice late obtuse attenuata vel subrotundata, interdum paullo retusa, basi rotundata, rigide coriacea, glaberrima, in vivo supra saturate, subtus pallide viridia, in sicco olivaceo-viridia, utrinque nitidula, in sicco margine paullo revoluta, primo visu integra, re vera distanter glandulis crassiusculis ultra marginem propumpentibus (0,5 mm) quasi denticulata, 12—19 cm longa, 7—12 cm lata, costa rubescente supra planiuscula, subtus basin versus gradatim fortiore, ima basi in petiolum crassum abeunte, nervis lateralibus 6—8(—10)-paribus utrinque prominentibus, reticulatione venarum venularumque densa utrinque sat crasse laetique elevata; petioli in sicco rubescentes, rugosi, 1—1,5 (—2) cm longi, 3—4 mm crassi. Racemi axillares solitarii, ascendentes, dense florigeri, usque ad 13 cm longi; rhachis angulata, c. 1 mm crassa, superne brevissime pubescens, deorsum glabrescens. Pedicelli robusti, griseo-tomentelli, 1—2(—2,5) mm longi, in floribus

superioribus paullo breviores. Bractee bracteolaeque subovato-subulatae, pedicellum longitudine  $\pm$  aequantes. Flores albovirides, 7-vel 8-meri. Calycis tubus albosericeus, 7-vel 8-costulatus, 3—4 mm longus. Sepala lineari-lanceolata, acuminata, extus et margine subsericeo-pubescentia, intus subglabra, 2,5—3 mm longa. Petala obovato-oblonga, obtusa, extus albosericea, margine et intus albolanata, sub anthesi 4—5, postea 6 mm longa, 2,5 mm lata. Stamina 8—10(—12)-fasciculata; filamenta glabra. Glandulae dense pubescentes. Ovarii pars supera anguste conica, extus intusque dense albopilosa; styli 4, in inferiore 2/3 parte pilosi, ceterum glabri.

NEW CALEDONIA. Haute Népoui, Oua Péoué, contrefort Sud du Kopéto, 600 m, fl. 25—3—1969, dans maquis sur terrain serpentineux, *H. S. MacKee 20377* (P, type; L).

Note. Possibly related to *H. austro-caledonicum*.

### 9. *Homalium guillainii* (Vieillard) Briquet

*Blackwellia guillainii* Vieillard, Bull. Soc. Linn. Normand. 10 (1866) 106. — *H. guillainii* Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 51; Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 157; Mezger, Ann. Mus. Colon. Marseille IV, 4 (1926) t. 42 (phot.); Guillaumin, Bull. Soc. Bot. Fr. 88 (1941) 645, 646; Fl. Nouv.-Caléd. (1948) 221; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 72 (excl. *Guillaumin & Baumann 11113*). — T y p e: Vieillard 22 p.p. (CN, holo, n.v.; P).

*Blackwellia 'vitiensis'* Sébert, Bois de la Nouv.-Caléd. (1874) 212 (based on Sébert & Fournier 56).

*H. vitiense* auct., non Benth.: Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 157 p.p. (Petit resp. Sébert & Fournier 56).

*H. sylvicolum* Baker f., J. Linn. Soc. Bot. 45 (1921) 320; Guillaumin, Fl. Nouv.-Caléd. (1948) 222; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 73 p.p. (*Guillaumin 13391*). — T y p e: Compton 948 (BM, holo; L & P, phot.).

*H. pronyense* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 4 (1932) 693; Fl. Nouv.-Caléd. (1948) 222. — T y p e: Franc 1657 (P, holo; G, HBG, K, L, Z).

*H. le-ratiourum* auct., non Guillaumin: Guillaumin, Bull. Soc. Bot. Fr. 88 (1941) 645 p.p. (*Deplanche 401*).

Specimens examined: *Baumann 9933, 15212; Compton 895, 948; Cribbs 682; Deplanche 401; Franc 1657; Hürlimann 1514; MacKee 14507, 19049; Petit 56; Sébert & Fournier 56; Veillon 1672; Vieillard 22 p.p., 2506 p.p., 2508, 2510.*

### 10. *Homalium francii* Guillaumin

*H. francii* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris 31 (1925) 480; C. T. White, J. Arn. Arb. 7 (1926) 95; Guillaumin, Fl. Nouv.-Caléd. (1948) 222; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 222. — T y p e: Franc 507 (P, holo; BM, G, HBG, K, L, Z).

*H. paitense* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 4 (1932) 692; Bull. Soc. Bot. Fr. 88 (1941) 645; Fl. Nouv.-Caléd. (1948) 222; Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 72. — T y p e: Franc 2451 (P, holo; B, BISH, HBG, K, L, SING, W, Z).

*H. sylvicolum* auct., non Baker f.: Guillaumin, Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 73 p.p. (*Guillaumin & Baumann 10960*).

Specimens examined: *Balansa 1022; Baumann 14503, 15251; Franc 433, 507, 2451; Guillaumin & Baumann 10960; MacKee 3686, 21845, 25549; White 2040.*

Note. Very close to *H. guillainii* (Vieillard) Briquet and possibly to be united with that species if the slight differences break down when more materials are available.

### 11. *Homalium intermedium* (Vieillard) Briquet

*Blackwellia intermedia* Vieillard, Bull. Soc. Linn. Normand. 10 (1866) 109. — *H. intermedium* Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 51; Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 157; Fl. Nouv.-Caléd. (1948) 222. — T y p e: Vieillard 2202 (CN, holo, n.v.; G, P, W).

Specimens examined: *MacKee 25224; Vieillard 2202.*

**12. Homalium rivulare (Vieillard) Briquet**

*Blackwellia rivularis* Vieillard, Bull. Soc. Linn. Normand. 10 (1866) 111. — *H. rivulare* Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 54; Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 157; Fl. Nouv.-Caléd. (1948) 222. — Type: *Vieillard 2191* (CN, holo, n.v.; BM, G, K, L, P, W).

*Blackwellia gracilis* Vieillard, Bull. Soc. Linn. Normand. 10 (1866) 111, nom. illeg., non Blume, Mus. Bot. 2 (1856) 26. — *H. gracile* Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 55; Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 157; Fl. Nouv.-Caléd. (1948) 222. — Type: *Vieillard 2205* (CN, holo, n.v.; BM, G, K, L, P, W).

Specimens examined: *MacKee 27407, 27412; Vieillard 2191, 2205.*

**13. Homalium mathieuanum (Vieillard) Briquet**

*Blackwellia mathieuanum* Vieillard, Bull. Soc. Linn. Normand. 10 (1866) 108. — *H. mathieuanum* Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 51; Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 157; Bull. Soc. Bot. Fr. 88 (1941) 645; Fl. Nouv.-Caléd. (1948) 221. — Type: *Deplanche 1* (CN, n.v.); *Vieillard 2206* (CN, hololecto, n.v.; P).

*H. polyandrum* Warburg in E. & P., Nat. Pfl. Fam. III, 6a (1893) 36. — Type: *Deplanche 319* (B, holo, †; G, K, P, W).

Specimens examined: *Deplanche 319; Vieillard 2206; Virot 249.*

**14. Homalium juxtapositum Sleumer, spec. nov.**

*H. intermedium* auct., non (Vieillard) Briquet: Guillaumin, Mém. Mus. Nat. Hist. Nat. Paris, sér. Bot. 15 (1964) 72.

Frutex 1,5 m altus, ramulis apicibus glabris, cito corticatis lenticellisque minutis ellipticis obtectis. Folia oblanceolata usque elliptica, interdum subovato-elliptica, apicem versus late obtuse attenuata usque rotundata, interdum breviter retusa, basi late cuneata vel subtruncato-obtusula, ima basi in petiolum contracta breviterque decurrentia, subcoriacea, glabra, imprimis supra nitidula, in sicco olivaceo-brunnescentia vel -viridescens, glandulis marginalibus impressiusculis subcrenata vel undulata, (3,5—)5—11 cm longa, 2,5—5 cm lata, costa nervisque lateralibus 6—8-paribus utrinque prominentibus, reticulatione densissima utrinque laete elevatula; petioli superne subulati, (4—)6—10 mm longi. Racemi axillares breviter pedunculati, subdensiflori, 6—10 cm longi; rhachis gracilis subglabra. Flores albi, (6—)7- vel 8-meri. Pedicelli graciles, sicut bracteae, bracteolae et flores (extus) pilis brevibus subappressis griseo-tomentelli, sub anthesi 1—1,5 mm longi; bracteae subulatae, basi pedicelli insertae, c. 1 mm longae; bracteolae cum pedicello alte connatae, generaliter primo visu apice pedicelli insertae, subulatae, 1 mm longae. Calycis tubus anguste conicus, basi truncatus haud attenuato-stipitatus, 7- vel 8-costulatus, c. 3 mm longus. Sepala lanceolata, acuta, intus albido-villosa, 3 mm longa, 1 mm lata. Petala sepalis similia, sed obtusa, dorso paullo densius pilosa, sub anthesi 3, fructificationem versus (*Baas Becking 5970 A*) ad 4 mm accrescentia, intus albido-villosa. Stamina 8—10(—12)-fasciculata; filamenta sub anthesi sepalis longitudine aequantia, glabra; antherae minutae. Glandulae albobillosae. Ovarii pars supera albobillosa; styli 4 breves, glabri.

NEW CALEDONIA. Lower slopes of Mt. Kaféaté, 30—100 m (Kone to Voh), fl. 30—5—1956, *H. S. MacKee 4224* (L, type; P); creek near Voh, 10 m, in bud 30—3—1956, *MacKee 4234*; Voh, fl. & defl. 24—2—1950, *L. G. M. Baas Becking 5970 A* (P, Z).

**15. Homalium polystachyum (Vieillard) Briquet**

*Blackwellia polystachyum* Vieillard, Bull. Soc. Linn. Normand. 10 (1866) 107. — *H. polystachyum* Briquet, Ann. Cons. Jard. Bot. Genève 2 (1898) 54; Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 157; Fl. Nouv.-Caléd. (1948) 222. — Type: *Vieillard 2203* (CN, holo, n.v.; BM, G, K, L, P, W, Z).

Specimens examined: *Schmid 2695; Vieillard 2203.*



**16. *Homalium le-ratiorum* Guillaumin**

*H. le-ratiorum* Guillaumin, Bull. Mus. Nat. Hist. Nat. Paris II, 4 (1932) 695; Bull. Soc. Bot. Fr. 88 (1941) 645 p.p.; Fl. Nouv.-Caléd. (1948) 222. — T y p e: *Le Rat* 545 (P, holo; L).

*H. betulifolium* Däniker, Vierteljahrsschr. Nat. Ges. Zürich 78, Beibl. 19 (1933) 276; Guillaumin, Fl. Nouv.-Caléd. (1948) 222. — T y p e: *Däniker* 461 (Z, holo).

*H. tontoutense* Guillaumin, J. Agric. Trop. & Bot. Appl. 11 (1964) 99 ('tontoutense'). — T y p e: *MacKee* 7743 (P, holo).

*H. vitiense* auct., non Benth.: Guillaumin, Ann. Mus. Colon. Marseille II, 9 (1911) 157 p.p. (*Vieillard* 2505 p.p.).

*H. rubiginosum* auct., non (*Vieillard*) Warb.: Baker f., J. Linn. Soc. Bot. 45 (1921) 320.

*H. sylvicum* auct., non Baker f.: Guillaumin, Bull. Soc. Bot. Fr. 88 (1941) 645.

Specimens examined: *Balansa* 510, 1021, 1021b, 3616; *Blanchon* 1286; *Compton* 1267; *Däniker* 461; *Deplanche* 23; *Green* 1823; *Hürlimann* 1717; *Lecard* s.n.; *Le Rat* 545, 2059; *MacKee* 3478, 7743, 20169, 23829, 24824, 26450; *Pancher* s.n.; *de Pompéry* a. 1881; *Thorne* 28466; *Veillon* 2213, 2889; *Vieillard* 2505 p.p.; *Viot* 809, 1471.

Note. *H. tontoutense* Guillaumin is but a local form of *H. le-ratiorum*, limited to the Tontouta R. Valley; the leaves have generally longer petioles and the bracts and bracteoles are slightly longer and narrower.

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